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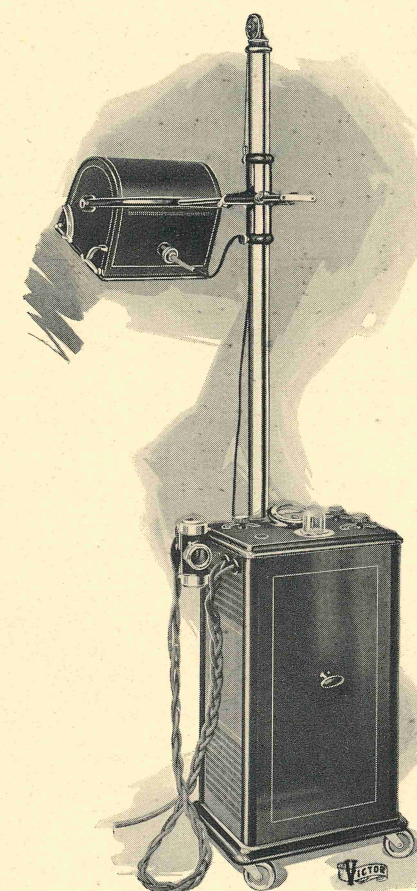
**MERCURY
VAPOR
QUARTZ LAMPS**
for
**ULTRAVIOLET
THERAPY**

VICTOR X-RAY CORPORATION



VICTOR QUARTZ LAMPS

For Ultraviolet Therapy



VICTOR X-RAY CORPORATION

*Manufacturers of the Coolidge Tube and a complete line of X-Ray and
Physical Therapy Apparatus, Electrocardiographs, and other Specialties*

2012 Jackson Boulevard Branches in all Principal Cities Chicago, Illinois, U. S. A.

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Foreword

THE Medical Library today offers to him who would investigate, abundant evidence that ultraviolet radiation has the sincere attention of medical science in all its branches.

The application of ultraviolet radiation as a therapeutic agent had its inception in the Finsen light. Since that period it has passed through various stages of research and development, all the while under observation by many in the medical profession who recognized its potential therapeutic possibilities. More general adoption has been but comparatively recent, however, now that apparatus for the generation and application of ultraviolet radiation has been designed, with which every physician may quickly become familiar and administer dosages accurately and intelligently.

The consequent rapidly increasing use of quartz lamps has justified the directing of Victor engineering talent, with its unequalled facilities, toward improving the various types of apparatus used up to the present. Victor engineers have for some years been constantly observing and studying the use of quartz lamps in the hands of the physician, alert to determine where improvements could be made which would increase the efficiency of the lamps, make them more convenient to manipulate and more durable.

This is pursuant with the long established Victor policy, that regardless of how efficient present day medical equipment may be, improvements must be sought constantly. Thus the medical profession, through its co-operation with the manufacturer following such a policy, shares the results of the scientific achievements realized.

The Victor Quartz Lamps presented herein are, we believe, a decided advance in principles of design and manufacturing skill, the result of an extensive study of the requirements by a staff of engineers whose experience in Electro-medical apparatus is represented by all other Victor apparatus as used today the world over. Their intelligent use in the hands of the physician portend a definite advance in the Physical Therapy branch of medical science.

The user of a Victor quartz lamp soon realizes another highly important factor in connection with his work, that of *Victor Service*. A profusely illustrated Manual of Operative Technic accompanying each outfit is a typical example of one phase of this service originating in our Educational Department. Then, in all of the principal cities throughout the United States and Canada, our Direct Branch Offices are established where specially trained men are immediately available for advice and assistance in the operation of the equipment. Victor factory-trained experts are also located in principal cities the world over. This personalized service has proved invaluable to users of Victor X-ray and Physical Therapy apparatus.

*The complete line of Victor Quartz Lamps has been listed as standard
by the Underwriter's Laboratories*

MEMBERS in the Medical profession frequently comment on the conspicuous absence of Victor advertising in the newspapers and lay magazines, with reference to the sale to the public of devices of a therapeutic nature. The increasing number of inquiries concerning our policy in this respect seems to indicate the necessity of reiterating a statement that appeared some time ago.

All therapeutic devices manufactured by the Victor X-Ray Corporation are designed primarily for and to be used exclusively by physicians, surgeons, dentists and properly constituted medical institutions. Because the purpose of such devices is solely therapeutic, their application must obviously be restricted to the judgment of recognized medical practitioners, and it is to this policy that the Victor organization adheres in the distribution of its therapeutic devices.

This policy is not based on commercial expediency, but upon the indubitable conclusion that any other course would be against public interest.

The "Uviarc" Quartz Tube

For Generating Ultraviolet Radiation

For use with Victor Quartz Lamps, the "Uviarc" tube, as manufactured by Cooper-Hewitt Company, and of which Victor X-Ray Corporation is exclusive distributor, has been selected. Every tube, before it is placed in the hands of the physician, is put through a series of critical tests to insure its efficiency, and to detect any possible weak points in its construction. Thus possibilities of tube troubles are precluded, so far as it is possible to do so in this respect.

There are only two quartz tubes which need be taken into consideration in the entire line of Victor Quartz Lamps, viz., the air-cooled type and the water-cooled type "Uviarcs". Which means that, regardless of whether the supply current is alternating or direct, the same tube is used in all instances on the air-cooled lamp. The same rule applies in the use of the water-cooled lamp. This assures a uniform ultraviolet output on either A. C. or D. C. lines, permitting the use of identical technic with each source of supply.

"Uviarc" tubes are designed primarily for operation on direct current. In those instances where only an alternating current supply is available, the Victor outfits, instead of requiring a different quartz tube, have interposed a rectifier which transforms the alternating current into direct current suitable for energizing the same tube.

The "Uviarc" tubes herein described should not be confused with the mercury-vapor lamps generally used in a commercial way. The latter are made of glass and used largely for illuminating purposes. When glass is used, the ultraviolet rays, so abundant in the mercury arc, are not utilized, as glass absorbs practically all of them. For therapeutic purposes, where only the ultraviolet rays are sought, the luminous portion of the tube must therefore be made of clear fused quartz which is highly transparent to these rays. The clear fused quartz from which the "Uviarc" is formed is produced from the purest quartz crystal, by the General Electric Co.'s patented electro-vacuum furnace process. Its purity and freedom from bubbles insure a minimum dispersion and a maximum transmission of ultraviolet radiation.

Electrodes All-Glass Sealed

Considerable difficulty has been experienced with quartz tubes in the past, due to the fact that the electrodes were ground in, then sealed with mercury; this seal set in a rubber and wax compound cement. The cement being relatively sensitive to the high temperature to which the tube is subjected when in operation, obviously there is a strain at these terminals when the tube is "rocked" for starting. Loosening of the cement is then only a matter of time, with a resulting leakage which ultimately destroys the efficiency of the tube.

The "Uviarc" overcomes this difficulty by the use of glass seals instead of mercury and cement. The tungsten electrode wires are fused, in a vacuum tight seal, to a glass which is in turn connected to the quartz of the tube through intermediate steps of glasses of decreasing coefficients of expansion. This all-glass seal has made possible the modern solid-anode quartz tube, permitting greater electrical input with a consequently greater intensity output.

Tungsten Anode Instead of Mercury

The use of a tungsten anode instead of a mercury anode solves the problem of proper distribution of mercury in the tube, greatly simplifies construction, and permits a higher temperature in the tube than is possible when both electrodes are mercury; i. e., a temperature much higher than that at which mercury volatilizes.

Increased Illuminating Surface

The glass-seal construction used exclusively in the "Uviarc" tubes eliminates metallic fins and other devices for radiation of heat to protect the seals, as used in former types of tubes. Consequently, a greater illuminating surface is realized, and the simplicity of design in turn simplifies the handling of the tube; it is also much easier to keep clean.

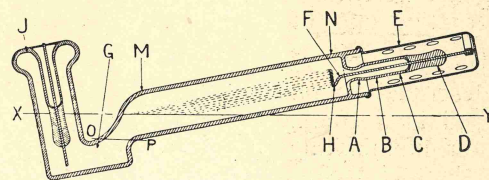


Fig. 1. Air-Cooled "Uviarc"

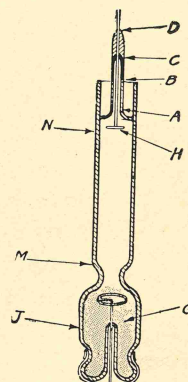


Fig. 2. Water-Cooled "Uviarc"

Diagrammatic Explanation of Construction of both types of "Uviarc":

- A Quartz stem of seal structure
- B Connection of quartz stem and seal grading
- C Connection of seal grading and seal coating
- D Tip of seal coating
- E Anode seal guard (Air-Cooled Tube)
- F Tungsten electrode (Air-Cooled Tube)
- G Cathode mercury pool
- H Anode target
- J Cathode chamber
- M-N Luminous portion
- X-Y Level of mercury when cold (Air-Cooled Tube)
- O-P Level of mercury during operation (Air-Cooled Tube)

The portion A to D is the seal structure which supports the tungsten electrode F. The portion A to B is the quartz stem. From B to C is the graded portion of seal consisting of three graduated glasses for the purpose of compensating for the appreciable expansion of electrode with practically zero expansion of the quartz stem. The portion C to D is the vacuum tight seal, the tungsten wire being coated with glass having the same coefficient of expansion as tungsten. The anode seal structure on the Air-Cooled Tube is protected by metal guard E, while the anode seal structure of Water-Cooled Tube does not require a metal guard, as the casing itself provides full protection against external damage.

The mercury pool G forms the CATHODE end of Tube and the tungsten target H is the ANODE. When the Tube is cold there is practically no vapor pressure, and mercury assumes the level shown at X-Y (Fig. 1). When the Tube is tipped so mercury flows against anode target, electric current flows through mercury which causes an arc as soon as the Tube is tipped back to its normal position. The heat from this arc vaporizes a portion of the mercury, and vapor pressure increases, gradually forcing the mercury up into cathode bowl; so that when the pressure has reached a maximum the mercury assumes the lower level O-P shown in Fig. 1.

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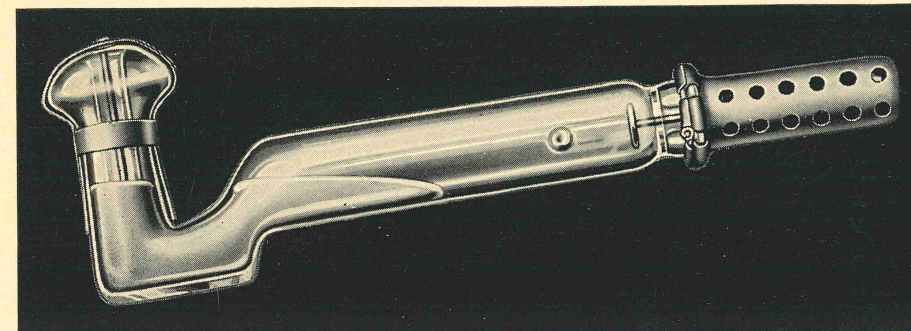


Fig. 3. Air-Cooled Type "Uviarc" Quartz Tube

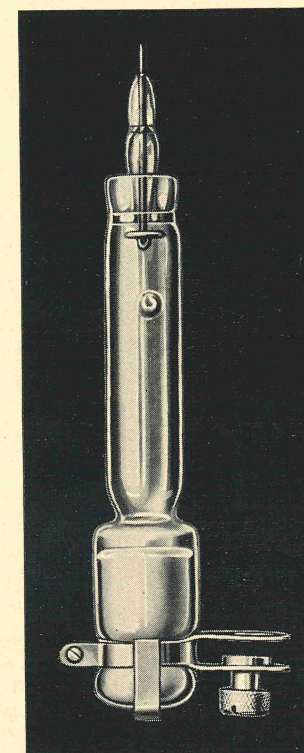


Fig. 4. Water-Cooled Type "Uviarc" Quartz Tube

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Victor Air-Cooled Type Quartz Lamps

The air-cooled type quartz lamp is designed primarily for systemic treatments, where the rays are directed over large areas and at comparatively long range. The reflecting hood is therefore designed accordingly, as is its mounting on the vertical column.

The two prime requisites in the design of a quartz lamp are: first, the most practical means for generating ultraviolet radiation; second, utilization with the minimum of dissipation or dispersion of this energy.

Parabolic Reflector an Exclusive Victor Feature

The first of these is now realized in the "Uviarc", as the reader has learned in the preceding pages. The other requisite has been given long and careful study by Victor engineers, with the result that the Victor air-cooled lamps herein described offer a decided advantage over apparatus used heretofore.

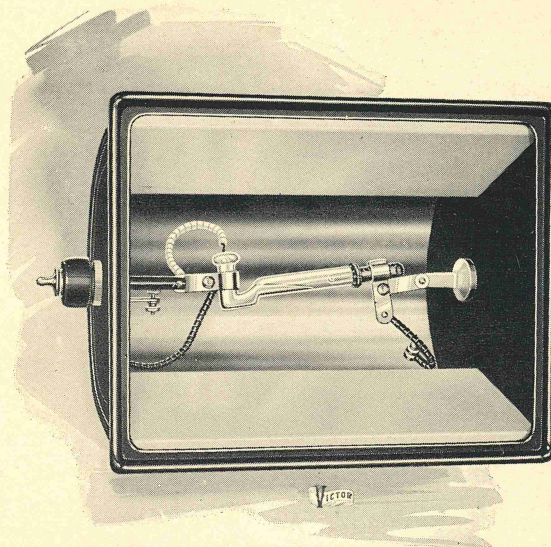


Fig. 5. Interior of Reflecting Hood for Air-Cooled Lamp

Note the mounting for the "Uviarc," the design of this mounting minimizing interference to reflection of rays. In the Model "A" Lamp by pressing the knob on the left (exterior of hood) the mercury is made to flow toward the anode, thus completing the circuit and causing an electric arc. A gentle swaying of the hood accomplishes the same purpose in the Model "B" and "C" Lamps.

necessarily be judged by its efficacy which, in turn, is governed by the quality and quantity of radiation received by the patient. The doctor's primary interest is in obtaining the maximum benefit for his patient in the shortest possible time. Victor lamps enable him to do this, first, because the "Uviarc" burner is the richest known source of ultraviolet in that portion of the spectrum of

This has been brought about by the use of an aluminum reflector of scientifically correct design, forming an integral part of the air-cooled hood. This reflector is made in the form of a true paraboloid, the advantages of which are graphically illustrated in Fig. 6.

A test made with any Victor air-cooled quartz lamp will show that with the "Uviarc" at a distance of forty inches from the patient (the maximum distance in general use), the distribution of radiation is confined to a rectangular area approximately $5\frac{1}{2} \times 8\frac{1}{2}$ feet square (Fig. 6A). With the shorter tube-patient distances used in "intensive" technic, this area is, of course, proportionately less. In addition, there is a concentration of energy on the patient directly beneath the lamp, due to the straight line reflection of the radiation by the parabolic reflector. (Fig. 6B).

The value of an ultraviolet generator to the physician must, in turn, be governed by the quality and quantity of radiation received by the patient. The doctor's primary interest is in obtaining the maximum benefit for his patient in the shortest possible time. Victor lamps enable him to do this, first, because the "Uviarc" burner is the richest known source of ultraviolet in that portion of the spectrum of

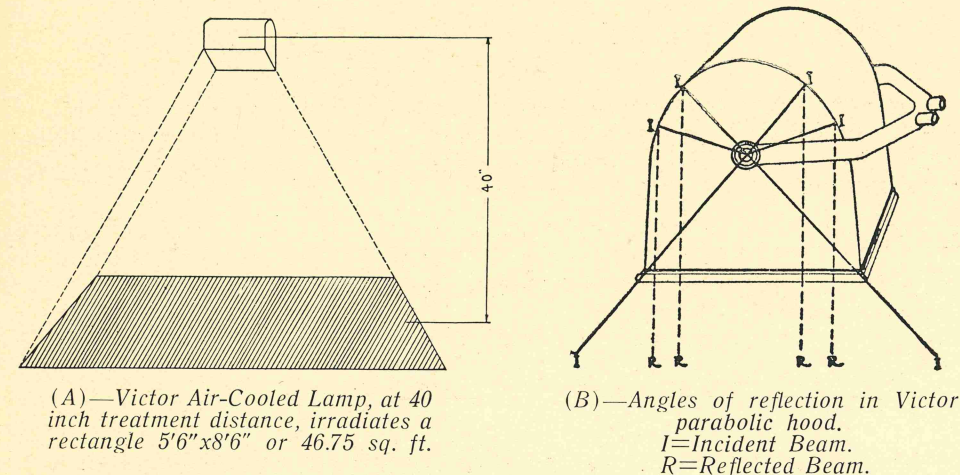


Fig. 6.

Due to the parabolic reflector used in all Victor Quartz Lamps, the radiation is confined to a relatively small area—approximately $5\frac{1}{2} \times 8\frac{1}{2}$ ft. at a 40 in. distance, as shown at "A." "B" illustrates the straight line reflection principle of the Victor parabolic reflector, resulting in a concentration of radiation on the patient under the lamp. These features, exclusive with Victor lamps, enable the physician to obtain desired results with much shorter treatment periods—conserving his time and that of his patient.

known therapeutic value (2200 Å to 3100 Å*); secondly because the greatly simplified mounting for the "Uviarc" minimizes obstruction to the reflected energy, and thirdly, because its parabolic reflector confines this radiation as much as possible to the area under treatment.

Through these improvements, the Victor lamp represents a real achievement, for the volume of useful radiation has been increased to the extent that the treatment period for a given effect is reduced to a minimal.

Three Models of Air-Cooled Lamps

Broadly speaking, Victor air-cooled quartz lamps are designed in three styles: the Model "A" or *de luxe* lamp, an extremely flexible type incorporating every operating convenience; the Model "B" lamp, a modification of the Model "A", simplified in design for the sake of manufacturing economy; and the Model "C" or portable lamp, an outfit requiring little space when not in use and which may be readily carried to the patient's home should the physician deem its use there advisable. A more complete description of the advantages of each type will be found on the pages following. In making a selection, it should be borne in mind that every model of Victor air-cooled quartz lamp employs the same "Uviarc" burner and reflector, assuring the same quality of ultraviolet output regardless of which lamp is used.

Also note that both Models "A" and "B" are equipped with a voltmeter and rheostat, enabling the physician, regardless of line fluctuations, to conveniently control the dosage—as vitally important here as in drug therapy.

*Hess: Journal A. M. A., Mar. 10, 1923, pp. 687-690. U. S. Bureau of Standards: Scientific Paper No. 495. Luckiesh: Ultra Violet Radiation—D. Van Nostrand, 1922.

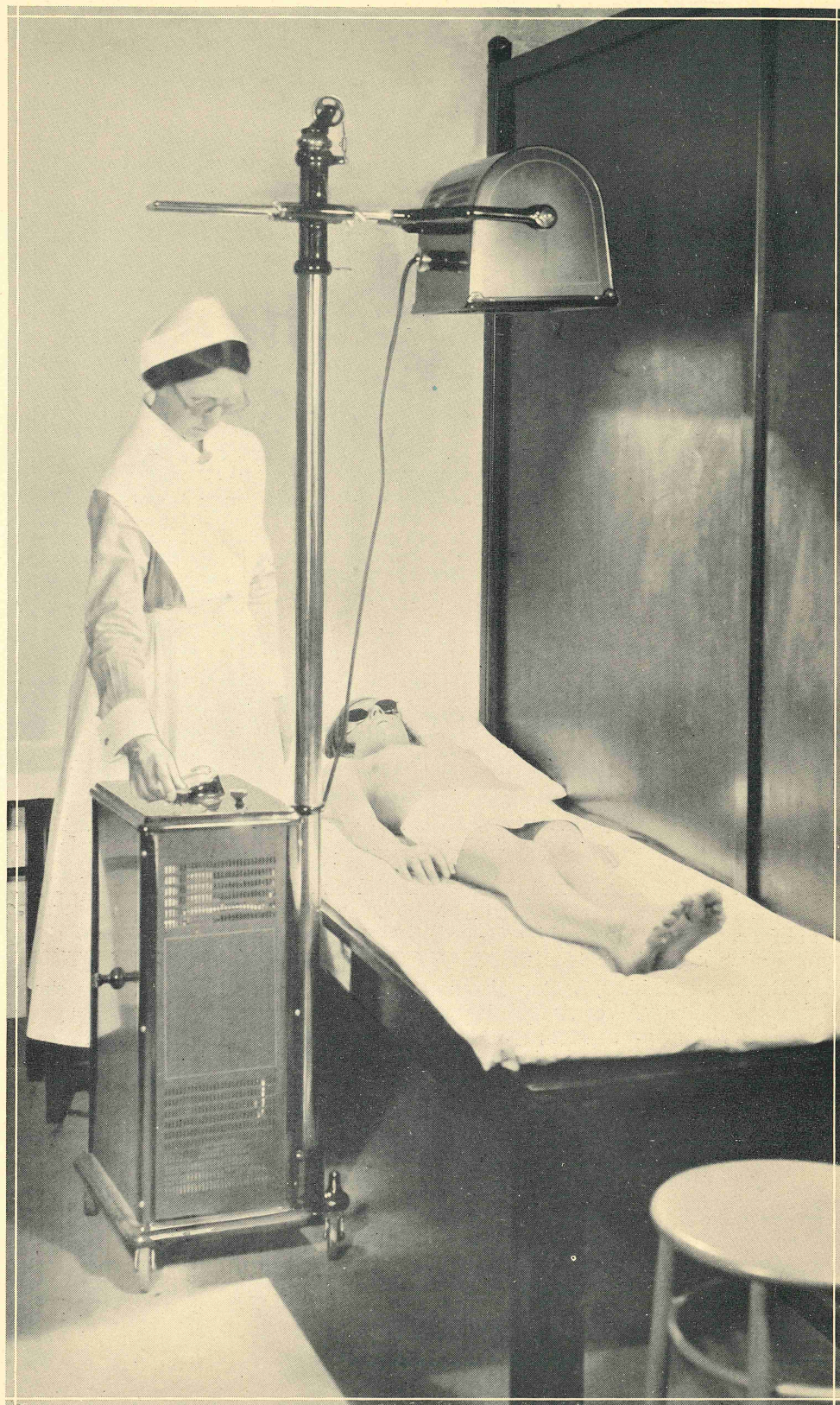


PHOTO COURTESY NORTHWESTERN UNIVERSITY MEDICAL SCHOOL, CHICAGO

Model "A" Air-Cooled Quartz Lamps

These *de luxe* outfits represent the last word in ultraviolet apparatus for systemic irradiation. Embodying as they do every facility for ease of control and manipulation, they are the logical selection of physicians who demand the finest equipment available.

Advantages of the Model "A" Lamp

The purchaser of a Victor Model "A" Air-Cooled Quartz Lamp will realize many advantages in the use of his equipment. Among other things, should he desire at a later date to install a water-cooled quartz lamp, it can be added to his air-cooled lamp to make a very compact self-contained combination unit (see section headed "Combination Outfits"). Too, the voltage input to the "Uviarc" may be varied from 70 to 90 volts, permitting the use of the so-called "high voltage" or "intensive" technic, which is so generally used for reducing the time of treatment. These higher voltages are well within the limits of the 4-bulb *Tungar* rectifier supplied in these outfits.

A study of the various illustrations will disclose that the aim of the designers of these lamps to produce equipment of clean-cut and pleasing lines, has indeed been realized. Even the shape of each control has been worked out to blend into the general contour of the instrument.

Simplified Control of Dosage

The advantages mentioned in the foregoing would amount practically to naught, were the apparatus so complicated as to require considerable electrical

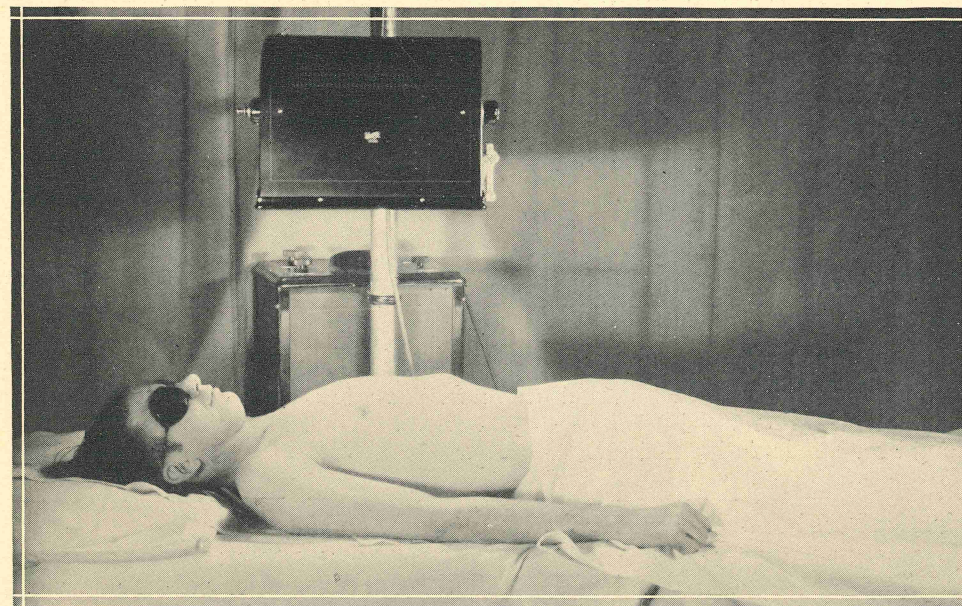


Fig. 7. Intensive Irradiation with the Victor "A" Air-Cooled Lamp.

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knowledge and experience to produce the energy in ideal form. Here too, our engineers have provided amply, with an ingenious control system that has made operation of the apparatus simple in the full sense of the word.

By means of two resistance controls—coarse and fine adjustments—the operator can select instantly one of two voltages across the quartz tube, i. e., 70 or 90 volts; then if intermediate voltages are desired, the fine adjustment is

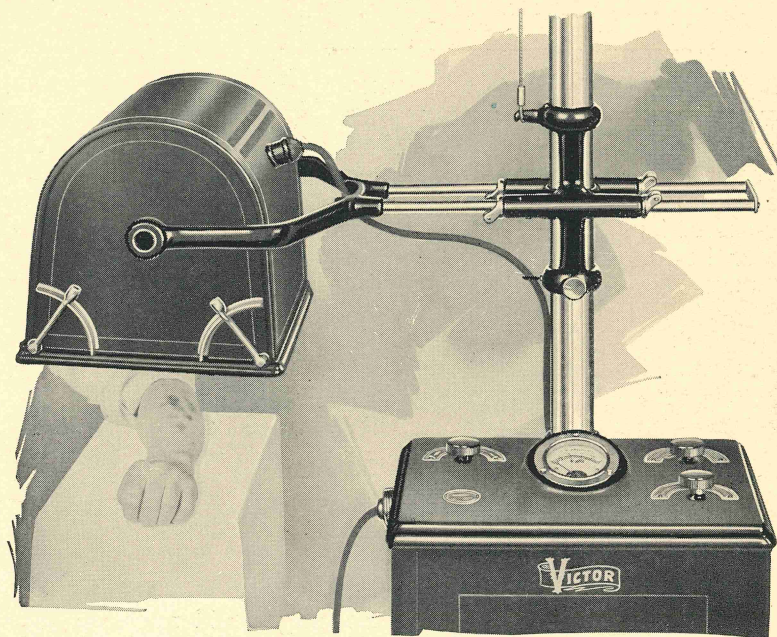


Fig. 8.

The unusual flexibility of adjustment of the reflecting hood means convenience in directing the radiation, regardless of position of patient.

used. Thus, the exact degree of intensity of ultraviolet radiation sought is secured quickly with the minimal manipulation.

Note the convenient position of the panel with control switches. These switches are mounted on top of the control cabinet, making them readily accessible.

Angular Adjustments of Hood Automatically Retained

The remarkable degree of simplification brought about in this part of the outfit will be appreciated by every operator. There are no lock nuts to bother with; any position of the hood through a 360° angle is obtained instantly, and automatically retained by friction-lock devices. Thus all adjustments of the hood become single-handed operations.

Vertical and Horizontal Adjustments of Hood

The hood is mounted on two sliding horizontal rods, which permit extension of the hood to any position horizontally within a radius of 21 inches (measuring from center of lamp to vertical column), sufficient to ray a patient in bed.

VICTOR



Fig. 9. Victor Model "A" Air-Cooled Quartz Lamp with Rectifier Control Cabinet.

For operation on alternating current supply. A truly mobile outfit, as the tubular column carrying the reflecting hood is mounted on the cabinet. Fitted with large, felt-tired casters, the outfit can be conveniently moved about the room, or from ward to ward.

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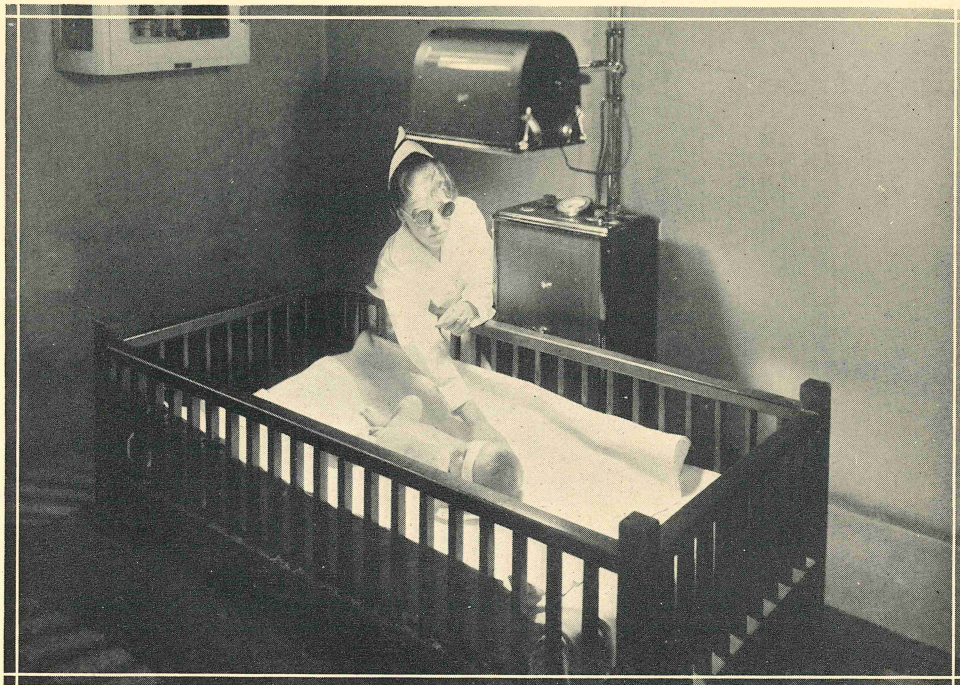


PHOTO COURTESY CHILDREN'S MEMORIAL HOSPITAL, CHICAGO

This movement is made free and easy by two sets of roller bearings through which the rods operate.

Vertical adjustment of the hood is obtained through a counterweight, roller bearing, cable and pulley, mounted on a substantial tubular column and pedestal. This vertical movement, like all other movements in the apparatus, has been designed with the idea of reducing friction to a minimum.

Fig. 8 is a close-up working view to show the flexibility of adjustment of the hood. Regardless of position of the part to be rayed, this flexibility allows the operator to direct the radiation quickly and conveniently, and whether the patient is in sitting, standing or recumbent position.

The Shutters

To vary the opening of the hood, and consequently the size of the field to be irradiated, a pair of shutters is provided, both shutters manipulated from the exterior and their positions determined through the position of the two adjustment levers on the side of the hood. These levers swing through an arc of approximately 90°, at any point of which a friction lock serves to automatically retain the position of the respective shutter. The close-up in Fig. 8 shows these two end levers.

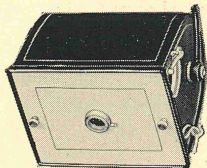


Fig. 10—Showing adapter plate in place for localized irradiation by means of applicators.

If Used Focally

There are comparatively few instances where the air-cooled lamp will be used focally; however, those who desire to so use it can obtain a special adapter plate (separately listed) which fits over the hood opening (Fig. 10). This adapter plate has an opening $1\frac{3}{4}$ " diameter, to which the same holders for quartz applicators used with the water-cooled lamp are adaptable.

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Fig. 11. Victor Model "A" Wall Bracket Type Air-Cooled Lamp with Rectifier Control Cabinet.

For operation on alternating current supply.

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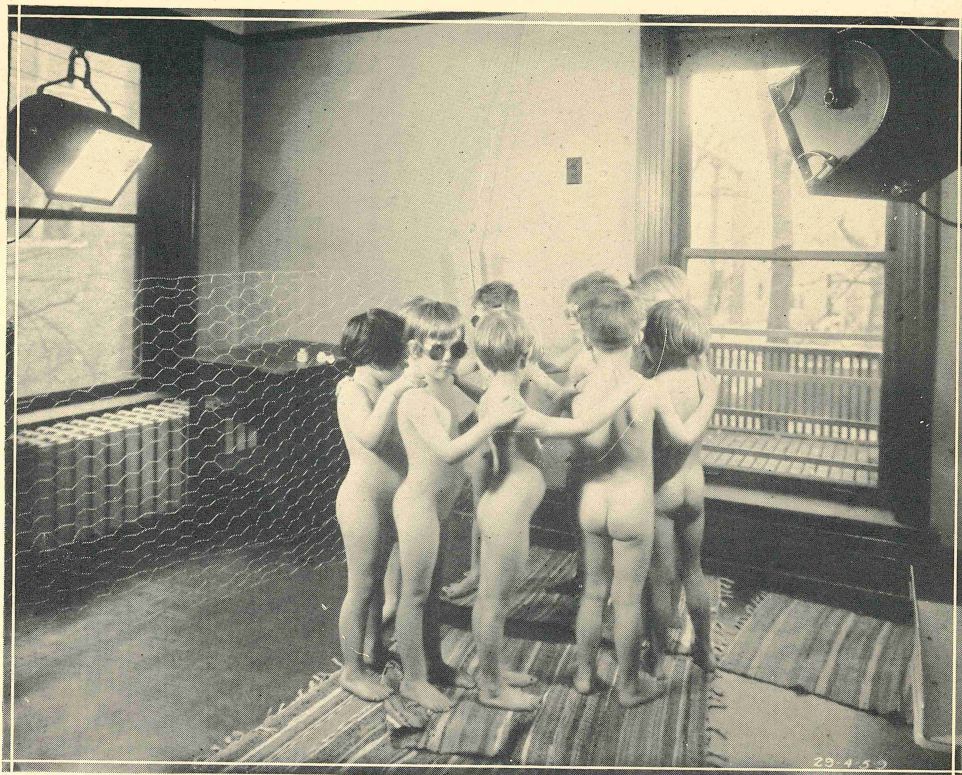


PHOTO COURTESY UNIVERSITY OF CHICAGO CO-OPERATIVE NURSERY SCHOOL

Rectifier Control

Since the Model "A" air-cooled lamp is designed to operate from an alternating current supply, the rectifier type of control is interposed. This unit is in cabinet form, mounted on casters, and is an integral part of the outfit to make it mobile, as shown in Fig. 9.

A quarter turn of the handle on the front panel of the cabinet and the panel is free, permitting quick access to internal parts. Within are mounted the various means of control, all through the switches on the top panel of the cabinet. This control system comprises a 4-bulb *Tungar* rectifier, complete with transformer and choke coil, a voltage regulating resistance, a "line" switch and selector switch.

With the selector switch the operator quickly obtains approximately one of two voltages, 70 or 90. Then with the voltage regulator any intermediate voltages are obtained.

The voltmeter indicates the exact voltage of the rectified current being imposed on the tube, also indicating polarity which is so vitally important to observe in the operation of "Uviarcs".

A Truly Mobile Outfit

A glance at the illustration (Fig. 9) of the Model "A" outfit is convincing

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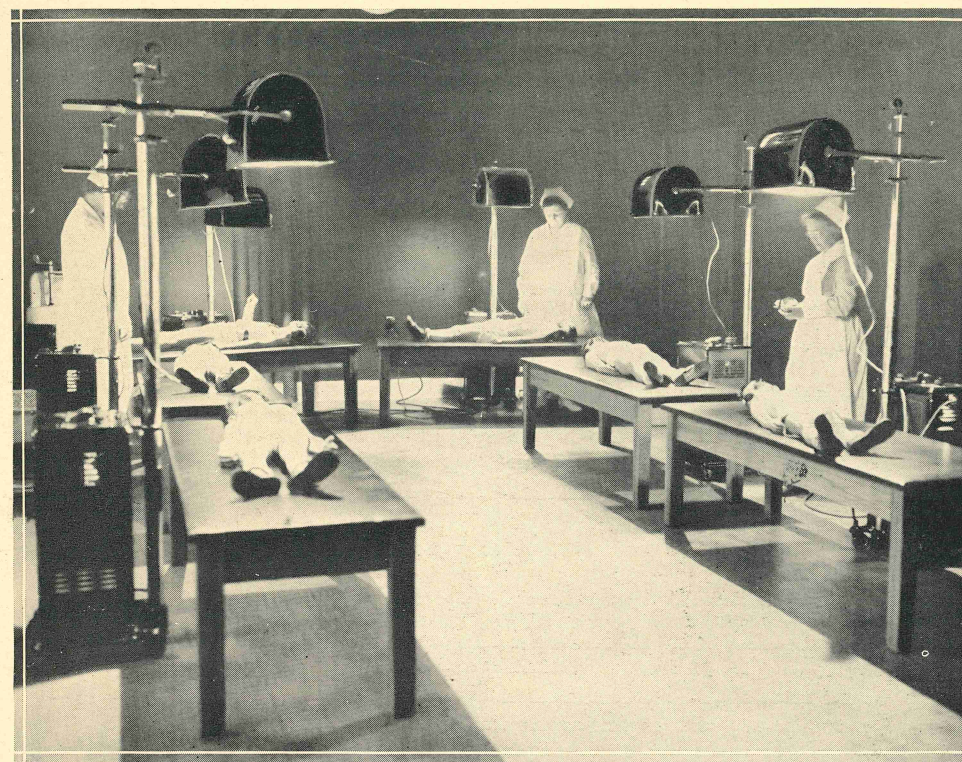


PHOTO COURTESY IOLA SANATORIUM, ROCHESTER, N. Y.

that this is a practical design for mobility. The rectifier cabinet serves as a mounting for the vertical column carrying the hood. Thus the outfit is complete in one unit. With the large felt-tired casters on the cabinet, rugs and door sills are easily traversed when moving the outfit about the room, or from ward to ward.

Wall Bracket Outfits

In some instances extremely limited floor space in the office or treatment room makes it necessary to suspend the reflecting hood from the wall by means of a bracket, as shown in Fig. 11. The wall bracket here used is arranged to swing toward the wall when the lamp is not used, and when extended permits use of the reflector over five feet from the wall. A counterweight, suspended from a cable operating over two smooth-acting pulleys, serves to automatically retain the reflecting hood at any desired height.

Beauty in Design and Finish

The conservative beauty of design of these outfits is pleasing to the eye and will harmonize with the best appointed room. The general color scheme is in rich black enamel and nickel, the enamel baked on by special process to insure durability. This black enamel finish, standard with all Victor quartz lamps, also serves to protect the operator from excessive reflected radiation. Suffice to say that the same high quality and finished workmanship characteristic of all other Victor apparatus prevail in these as well.

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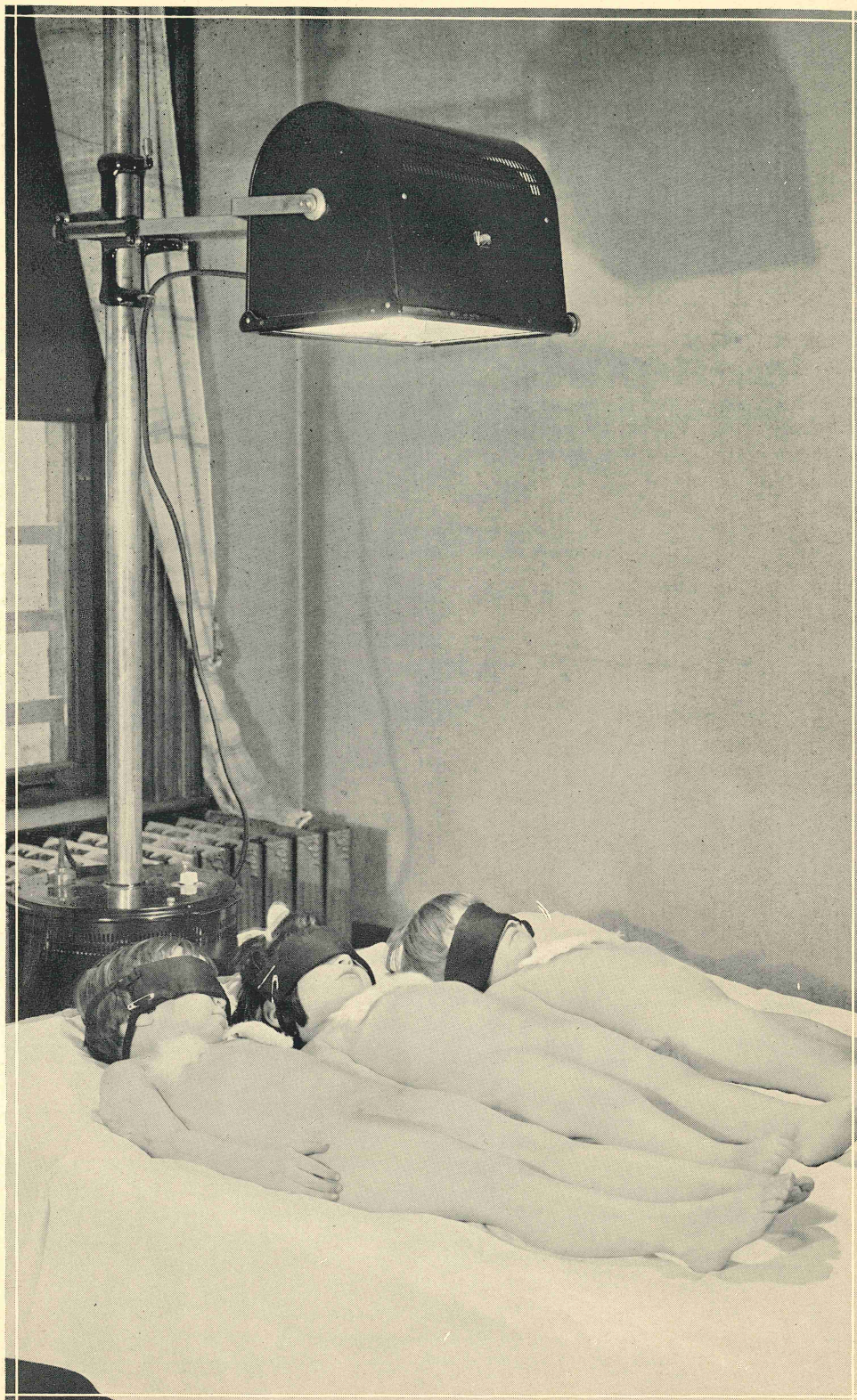


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Model "B" Air-Cooled Quartz Lamps

While the Victor line of Model "A" Ultraviolet Quartz Lamps is recognized everywhere as representing the best that present research and engineering knowledge provide, some physicians desire a lower priced outfit, comparatively simple in design but which at the same time is an efficient source of ultraviolet radiation. While anxious to put in an outfit with which to realize the advantages of ultraviolet therapy in their work, they are interested in what the minimum investment will be for only the most essential equipment.

Thus the problem presented to Victor engineers was this: To design an air-cooled lamp with which the user could employ the same 70-volt therapeutic technic as used by owners of the Victor *de luxe* lamps (which implies an equal efficiency in radiation output at that burner voltage) sacrificing nothing in the long established Victor standard for quality and workmanship, but eliminating all but the vital essentials in order to bring the cost down to the lowest possible figure.

Combination Air- and Water-Cooled Units

It should be remembered that the unit plan in the design of the *de luxe* line of Victor quartz lamps is with the view to making it possible for the purchaser of an air-cooled type lamp to later on, if he desires, combine it with the water-cooled lamp, and vice versa, this combination so arranged that both lamps may be operated through a centralized control system as a complete, self-contained unit. Obviously, this flexibility in design adds to the manufacturing cost.

So in working out the design for an air-cooled lamp that could be produced at a lower manufacturing cost, one of the first things decided upon was to eliminate the idea of combining it with the self-contained water-cooled lamp. It is possible, however, to effect a combination outfit by using a faucet water-cooled lamp connected to a source of cold running water, as explained in the section devoted to combination outfits. (See page 42.)

Incorporates Two-Bulb Tungar Rectifier

The next step was to simplify as far as possible, without sacrificing durability, such other parts as would reduce manufacturing expense. The rectifier of the A. C. lamp was designed to operate with two *Tungar* bulbs, instead of four as in the Model "A". This has the effect of limiting the voltage input to the "Uviarc" to approximately 70 volts. A modified circuit design in the D. C. lamp likewise imposes this same limitation. Thus, while this lamp has an ultraviolet output equivalent to the Model "A" operating at the same voltage, it should be particularly noted that "high voltage" technic can be utilized only with the Model "A" lamp.

Other Features of Design

Another revision is in the design of the carriage for extending the hood horizontally. In the Model "B" air-cooled lamp this part is both sturdy and practical, nevertheless. Again, on the hood it will be noted that two simple

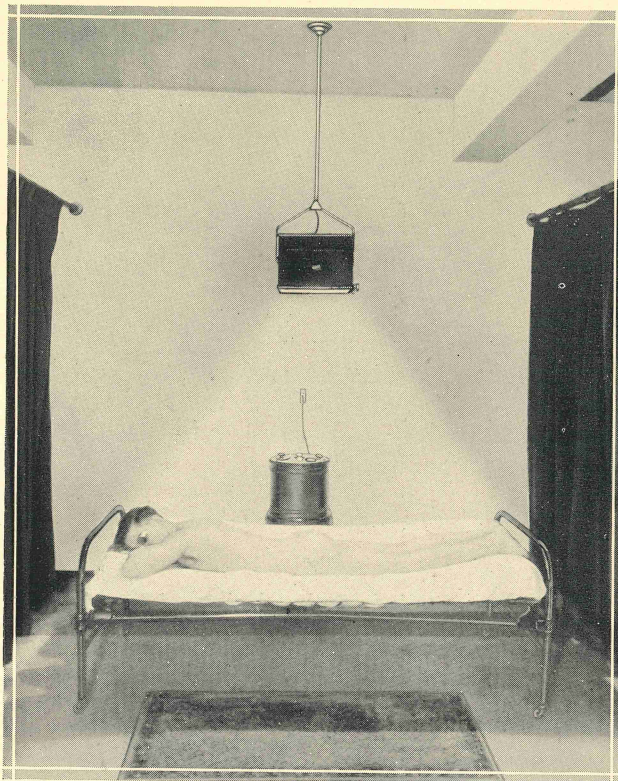


Fig. 12. Victor Model "B" Ceiling-Suspension Type Air-Cooled Quartz Lamp. This method of installation is, in some instances, ideal for systemic treatment.

stand, and may be placed at any desired height for convenience. On the control panel are located the "on and off" switch, rheostat, voltmeter and plug receptacle for the connecting cord from the lamp proper. The nicely distributed weight and large, easy-rolling, felt-tired casters make the movement of this unit particularly free and smooth over any sort of floor or floor covering.

Another manner of installation is seen in Fig. 12, where the Ceiling Suspension Type Model "B" Lamp is shown in use. This method of irradiation has found quite some favor in institutions where one or more lamps are used exclusively for a definite purpose, such as systemic treatment. In this instance the control unit is furnished with a wall bracket for mounting at a convenient height, and the wires to the lamp proper are brought through the wall and ceiling.

In offering the above full explanation of the difference between the Model "B" Victor Air-Cooled Quartz Lamp and the *de luxe* Model "A", it is with the desire to assure the physician that the Victor organization has not foisted on the profession an outfit which is in any way a compromise in respect to its therapeutic effect, but which answers the need for a lower priced outfit, simple in design and without embellishments, sacrificing some of the flexibilities of operation, but up to the rigid standard of Victor quality in construction.

knurled knobs are used for varying the positions of the shutters, instead of the two angular-indicating levers as employed on the *de luxe* outfit. There has also been eliminated the knob on the hood, as used for tilting the tube in order to flow the mercury toward the anode and thus start the mercury arc. With the "B" model, this is accomplished by gently swaying the entire hood on its carriage.

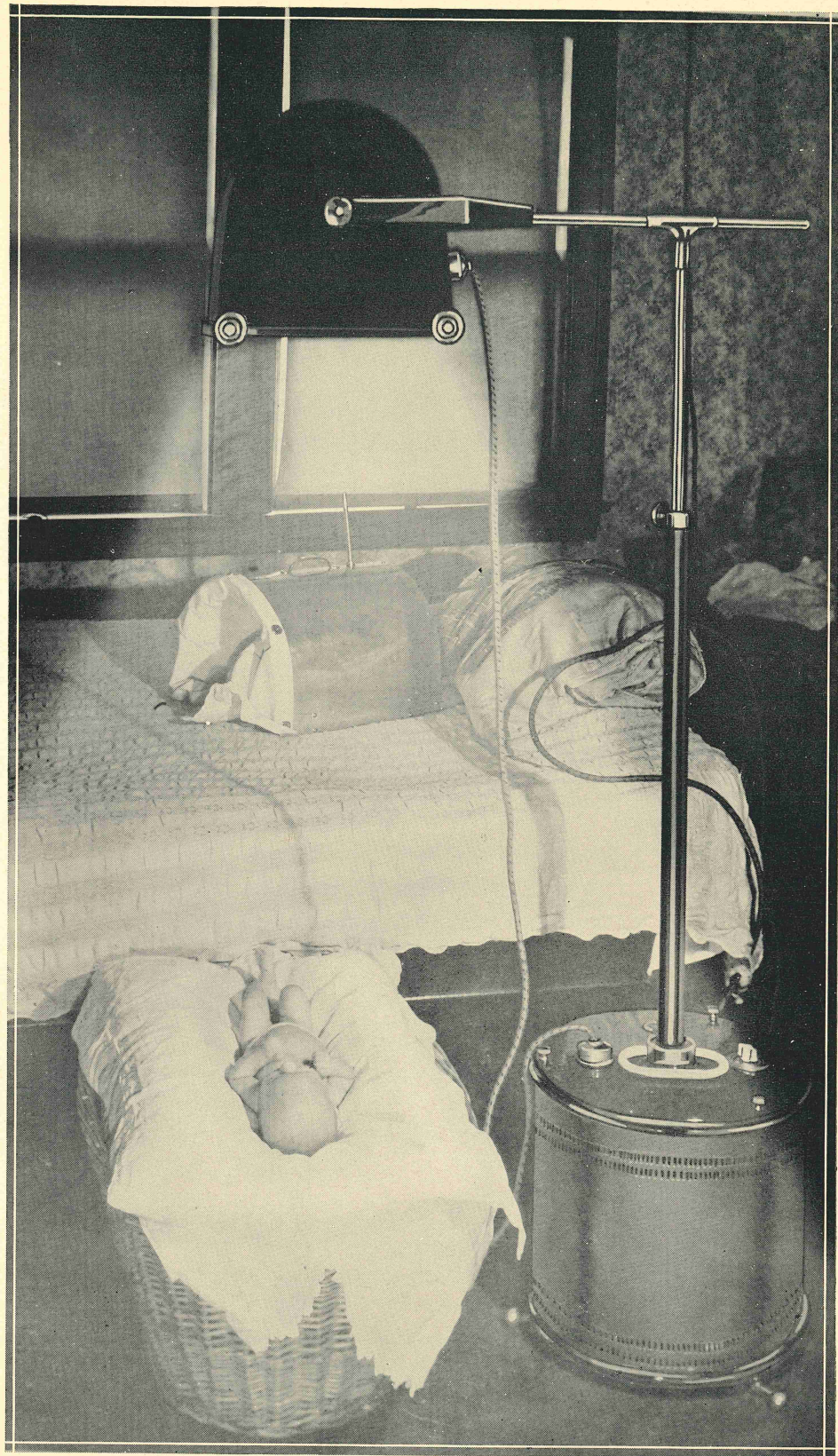
Two Styles of Model "B" Air-Cooled Lamps

Fig. 13 shows the Model "B" lamp arranged as a mobile outfit. The control is mounted on the vertical column of the floor



Fig. 13. Victor Model "B" Air-Cooled Quartz Lamp With Rectifier Control on Mobile Tripod Base.

A compact, well-balanced outfit, readily moved about on its easy-rolling felted wheels.



Model "C" Portable Air-Cooled Quartz Lamp

In response to a widespread demand on the part of physicians for a quartz lamp of the air-cooled type which may be conveniently taken to the home in instances where the patient is unable to visit the doctor's office or the hospital clinic for treatment, Victor engineers have designed the Victor Portable, Model "C", and it is offered to the profession with the assurance that it meets every requirement of portability, therapeutic efficiency and mechanical simplicity. Fig. 15 shows the outfit assembled ready for operation, and Fig. 14 as it appears when "knocked down" for carrying.

Weight Reduced to Minimum

Obviously, the first requirement in the design of an outfit of this type is that its weight be minimized. This was accomplished by eliminating everything not absolutely essential to the efficient operation of the lamp, and simplifying the balance. The double horizontal extension arms of the well known Victor non-portable lamps are replaced in this model by a single slotted shaft sliding through a "T" connection atop the vertical column. The telescopic vertical support is much smaller in diameter than the regular tubular column and, instead of a heavy tripod base, the outfit is supported by three disappearing legs projecting from the bottom of the rectifier cabinet.

Base Arrangement Assures Stability

A two-bulb *Tungar* rectifier, for operating the lamp from an alternating current supply, is mounted in the base. The position of this part gives the outfit a low center of gravity which, with the wide spread of the supporting legs, provides a base of exceptional stability, permitting maximum horizontal and vertical extension and complete rotation of the reflecting hood without danger of overbalancing.

Operating Conveniences

Localizing shutters in the reflecting hood provide a means for directing the radiation to exactly the area being treated. Since the hood can be adjusted to various angles, treatments may be given with the patient standing, sitting or reclining, as desired.

Operation of the lamp is most simple. A snap switch on the control panel starts the rectifier and the mercury arc is formed by gently swaying the hood. After a short period has been allowed for the voltage across the tube to build up, treatment may be begun, using the same factors in operative technic as with the other Victor quartz lamps, from the fact that the same "Uviarc" and

reflector are used in this as in all other Victor air-cooled models. However, since this portable apparatus has the same 2-bulb *Tungar* rectifier as in the Model "B" lamp, it is subject to the same limitations as regards "high voltage" technic, i. e., the input to the "Uviarc" is limited to approximately 70 volts. As no provision is made for varying the voltage it is not possible to adapt a water-cooled lamp to make a combination outfit.

Range of Service of Model "C" Lamp

Although this portable lamp is in some cases sufficient for all needs of the physician, the larger non-portable type is usually preferred for office use, while the portable lamp is utilized to supplement the office outfit, to be left in the patient's home when necessary. It is understood, of course, that treatments in the home should advisedly be under the direct supervision of the physician in every instance.

Let it be reiterated that this Victor model has not sacrificed the slightest degree of therapeutic efficiency for the sake of portability. Its simple operation appeals to the physician, as he may feel safe in prescribing its use in the home according to his instructions. The moderate price is also attractive, considering the high quality and efficiency which the Victor trademark always implies.

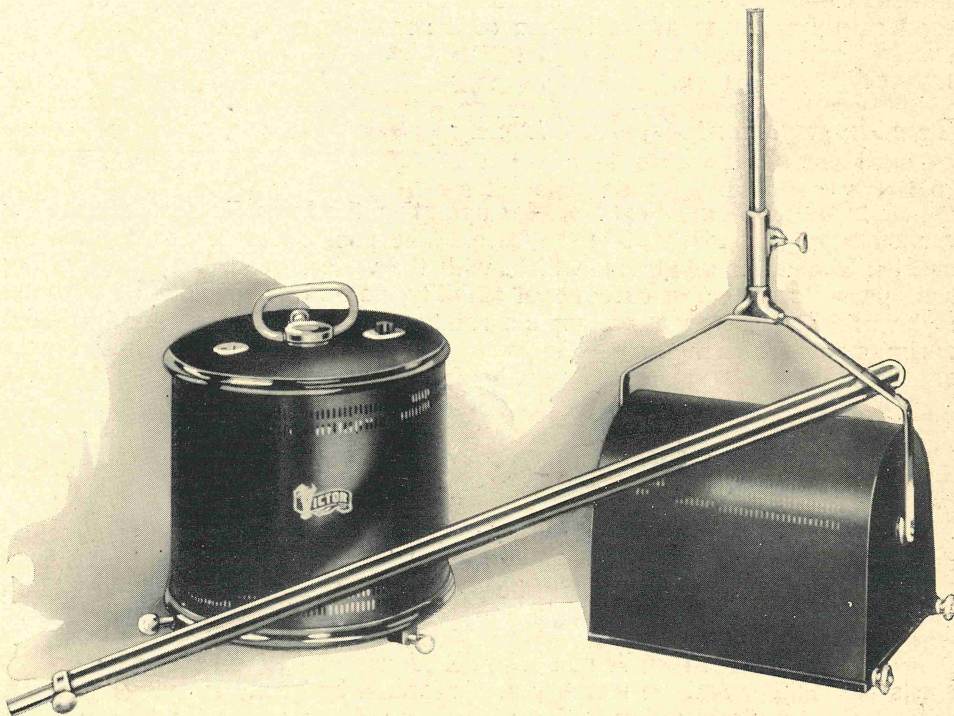


Fig. 14. Victor Model "C" Air-Cooled Quartz Lamp "knocked down" for carrying.

VICTOR

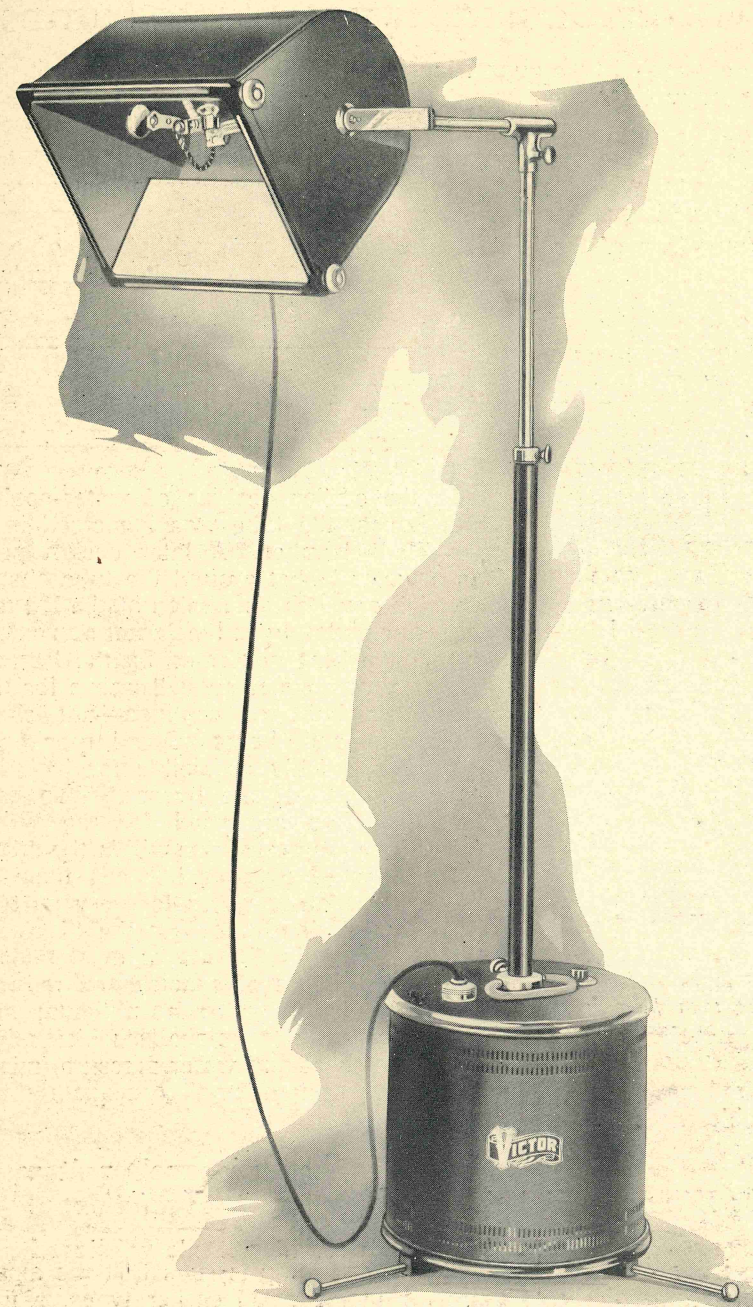


Fig. 15. Victor Model "C" Air-Cooled Quartz Lamp.

An alternating current type lamp which may be easily taken to the patient's home and quickly assembled there for use.

VICTOR

Victor Water-Cooled Type Quartz Lamps

Just as the air-cooled type quartz lamp is designed primarily for systemic treatments so is the water-cooled type designed primarily for local and orificial applications.

Victor water-cooled type quartz lamps incorporate a number of important improvements, while some factors inherent since quartz lamps were first introduced have been abandoned entirely.

Critical comparison of the Victor water-cooled lamps with those of previous design will reveal very definite advantages which the latest improvements offer.

Victor "Uviarc" Casing Better Withstands the Higher Temperatures

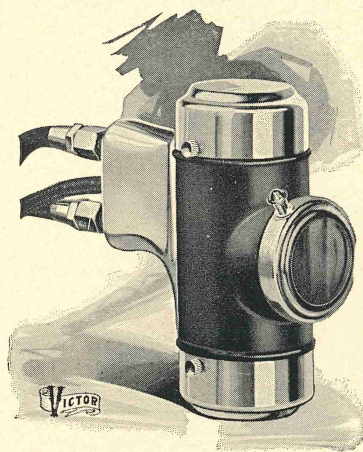


Fig. 16. Casing for the Water-Cooled Lamp. Note the shape which so readily adapts itself to the hand and makes it convenient to manipulate.

In the earlier designs of water-cooled quartz lamps, the tube was immersed in a water-filled chamber. A later design provides a water jacket around the tube chamber, which obviates immersion of the burner, the water circulating in the jacket serving to dissipate the heat generated by the burner.

The Victor water-cooled casing for the "Uviarc" is built of castings—not sheet metal work—and, being of end type construction, is quickly accessible for installation or removal of the burner. Two cast bronze cylinders are used for the water jacket. These are nested one within the other, with a series of grooves between them to force the circulating water to every part of the casing, efficiently cooling the "Uviarc" mounted snugly in the center of the inner cylinder. This type of construction reduces the soldered surfaces to a minimum and eliminates sealing compounds which, thru the action of heat and water pressure, might

become dislodged and render the circulating system, and consequently the burner, inoperable.

Single Quartz Window Minimizes Interference to Radiation

The construction of the Victor water-cooled lamp is such that the maximum ultraviolet output of the "Uviarc" is utilized. In earlier types, a film of water between two quartz windows was interposed in the path of the radiation. Our engineers found, however, that quite an appreciable amount of ultraviolet was absorbed by this arrangement, even tho distilled water were used. By eliminating the water film and one of the quartz windows in the Victor lamp it has been found by comparative tests that the time necessary to produce an erythema has been halved. The remaining quartz window, by an unique arrangement, is water-cooled at its edges to prevent breakage due to

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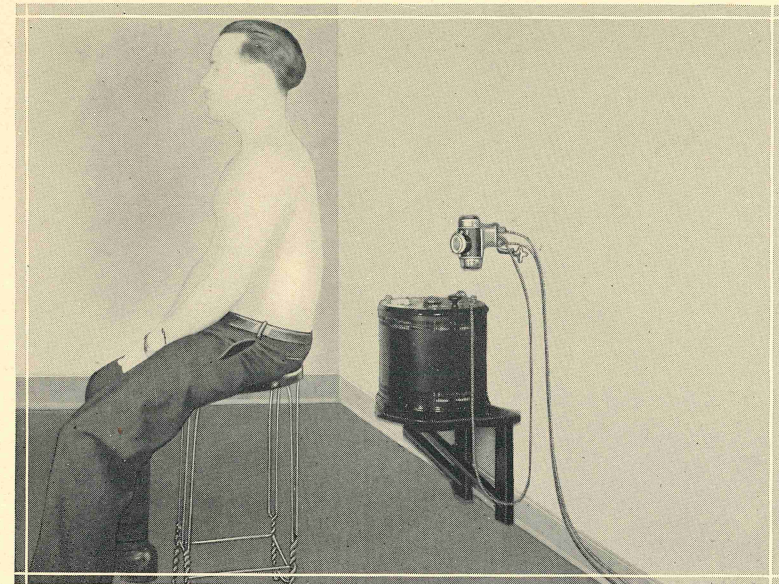


Fig. 17.
Showing how the water-cooled type lamp may be used for general irradiation.

heat. This important feature is found exclusively in Victor water-cooled quartz lamps.

Distinction Between Models "A" and "B" Water-Cooled Lamps

Victor water-cooled quartz lamps are furnished in two general styles, Models "A" and "B". As with the various models of air-cooled lamps, these water-cooled outfits all have equal therapeutic value, since the same "Uviarc" and water-cooled casing unit is used in each. There is this important difference between them, however: if a self-contained water-cooling system is desired, it can only be obtained in a Model "A" or *de luxe* lamp, the Model "B" depending upon an external supply of cold running water for cooling purposes. The many other differences between the two models are explained in the complete descriptions of the lamps given on pages following.

Water-Cooled Lamp May Also Be Used for General Irradiation

Altho primarily designed for local or orificial irradiation, with or without applicators, the Victor water-cooled lamp is also adaptable for systemic treatment, as its spectrum is practically identical with that of the air-cooled lamp. It is only necessary to remove the patient's clothing to the waist-line and seat him at a twenty inch distance from the lamp proper, which is placed in its receptacle on the Model "A" outfit or in the hinged wall receptacle furnished with the Model "B" unit (see Fig. 17, above). At this distance the distribution of radiation is sufficiently broad to treat the average adult from neck to waist-line. Many practitioners find this method practical, especially where the factors of space or additional investment preclude the possibility of a dressing room.

VICTOR



PHOTO COURTESY NORTHWESTERN UNIVERSITY MEDICAL SCHOOL, CHICAGO

Model "A" Water-Cooled Quartz Lamps

The outstanding advantage of the Model "A" or *de luxe* Water-Cooled Quartz Lamp lies in its mobility. With a self-contained cooling system, it may be used wherever an electrical outlet is available, independent of an outside water supply. With the faucet type cooling system there is always the question of proximity of plumbing to which the lamp must be attached; obviously the radius within which the lamp can be used is restricted, and to increase that radius might involve costly and complicated plumbing.

Another point of superiority is in the rectifier system employed in the alternating current outfits. This is the same 4-bulb *Tungar* rectifier as used in the Model "A" air-cooled lamps and permits the use of "high voltage" technic should an air-cooled lamp be added to the water-cooled unit later on.

In view of these two advantages alone, it will be readily seen that the Model "A" water-cooled apparatus is obviously the selection of the physician, dentist or hospital desiring a lamp incorporating the utmost flexibility in operation.

A Most Practical and Efficient Cooling System

Altho the Model "A" lamp will be furnished with a faucet type cooling system when desired (in which instance the principal advantage of this type over the Model "B" lies in the 4-bulb rectifier), it is usually supplied with the self-contained cooling system previously referred to. This consists of a water reservoir, a motor pump for keeping the water in constant circulation, a highly efficient radiator cooled by a fan, and a glass-enclosed fountain jet for observing the flow of water (see Fig. 18). The operation of this system is much the same as that in an automobile, i.e., the water circulating thru a radiator is constantly being cooled by a fan driven by the same motor which operates the pump.

Automatic Protection to "Uviarc"

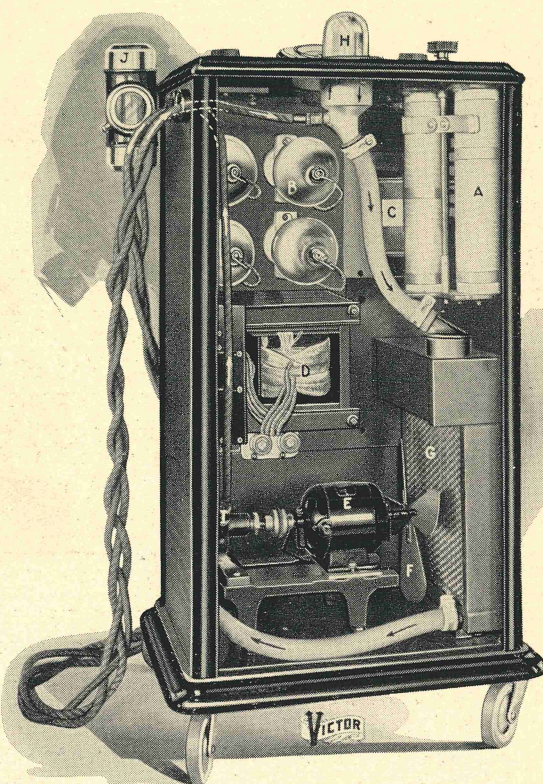
From the fact that the electric circuit for the pump motor is intimately connected with that of the burner, and the fan is attached to this same motor, it is at once apparent that in the Victor design is an outfit which functions automatically to safeguard the tube. No one unit in the system operates independent of the other. Rigid tests have proved the efficiency of this system, operating continuously even in room temperature of 90° F.

To further safeguard the "Uviarc", the wiring system throughout is such that damage due to reversed polarity cannot occur unless these connections are tampered with.

Mobile Cabinet Contains All Controls

All types of Model "A" water-cooled lamps have the same style mobile control stand, illustrated in Fig. 19. This stand accommodates, in the self-contained alternating current models, both the water-cooling system and rectifier; in the self-contained direct current outfits, the water-cooling system and rheostat; and, in the case of alternating current faucet-cooled machines, the rectifier system. All parts in the interior of the cabinet are conveniently

- A. Rheostat Control
- B. Tungar Rectifier Bulbs
- C. Choke Coil
- D. Transformer for Rectifier
- E. Motor for pump and fan
- F. Fan



- G. Radiator, with water reservoir above
 - H. Water Flow Indicator
 - I. Water Circulation Pump
 - J. "Uviarc" Casing
- Arrows indicate path of flow of water

Fig. 18. Showing Interior of Cabinet of Model "A" Mobile Unit With Self-Contained Water-Cooling System

accessible thru removal of the front panel; simply give the handle a quarter turn. Controls and indicating devices, such as the "on and off" switch, rheostat control, voltmeters and water flow indicator are located on the instrument panel atop the stand.

Receptor for the Water-Cooled Casing

This receptor is a simple device for accommodating the water-cooled casing. It is mounted in one of three ways: on the rectifier control cabinet, on the wall or desk, or on a wire cable suspended from a curved tubular column mounted on the control cabinet.

Counterweight-Suspended Type Quartz Lamp

Figure 21 illustrates a convenient method of mounting the water-cooled lamp so as to relieve the operator of the task of holding the lamp in a fixed position at the treatment area for long periods. This is the standard mobile outfit with self-contained water-cooling system on which has been mounted a vertical column with a swivel extension arm, from which the lamp is suspended for the purpose of conveniently applying to the area to be treated. This suspension is by means of a wire cable, the other end of which is attached to a counterweight within the vertical tubular upright, thus providing a free and easy adjustment

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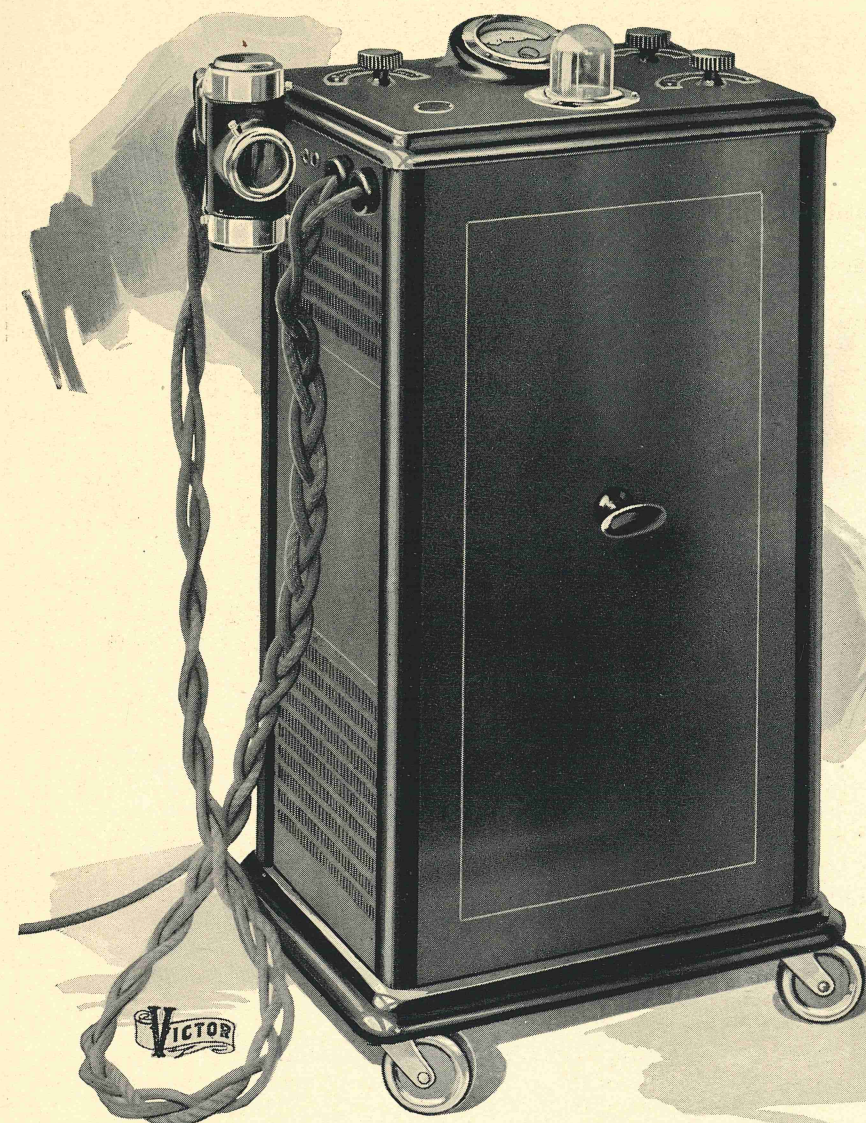


Fig. 19. Victor Model "A" Water-Cooled Quartz Lamp With Self-Contained Cooling System

As it appears for operation on either direct or alternating current. A mobile outfit, independent of all plumbing connections for water supply. Simply connect it to nearest lamp socket to energize.

VICTOR

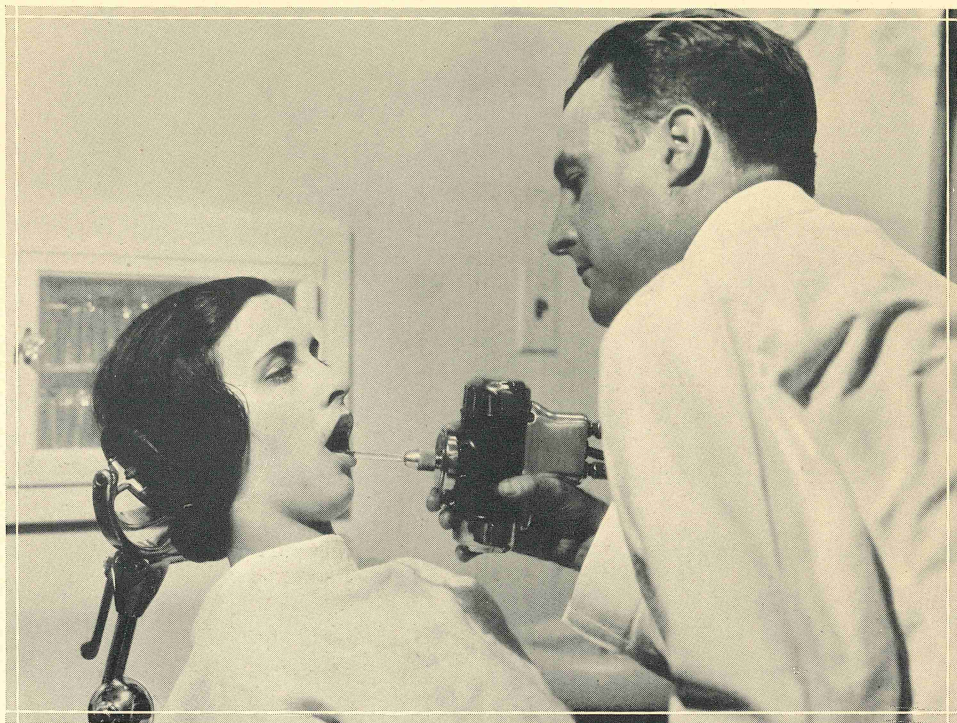


Fig. 20.

The dental practitioner finds increasing use for ultraviolet therapy in the treatment of many oral conditions.

for raising or lowering the lamp to any desired position. Each position is therefore automatically retained throughout the treatment period. When not in use, the extension arm may be swung back over the control stand.

When desired, this special arrangement can be furnished with the alternating current type water-cooled Model "A" outfit which has faucet connections for water-cooling instead of the self-contained cooling system. It can also be added at any time to the type control stand illustrated in Fig. 19, except when the air-cooled lamp has previously been combined with it.

Air-Cooled Lamp Can be Added Any Time to Form Combination Outfit

Standardization of equipment as far as is possible has long been practiced by Victor engineers, and in the design of these quartz lamps this very desirable and practical feature has been incorporated in a pleasing way. Should the purchaser of a Model "A" water-cooled outfit (with the exception of the counterweight-suspended type) decide later on to add the Model "A" air-cooled lamp, he may combine it so that both types are operated from the single control stand of his original purchase. This adaptation means simply the mounting of the vertical column on the cabinet, and completing the electrical connections which require but a few minutes. This provision will be appreciated by those having immediate need of the water-cooled lamp, and anticipating later addition of the air-cooled lamp.

Please note that the counterweight-suspended type water-cooled lamp cannot be combined with the air-cooled lamp.

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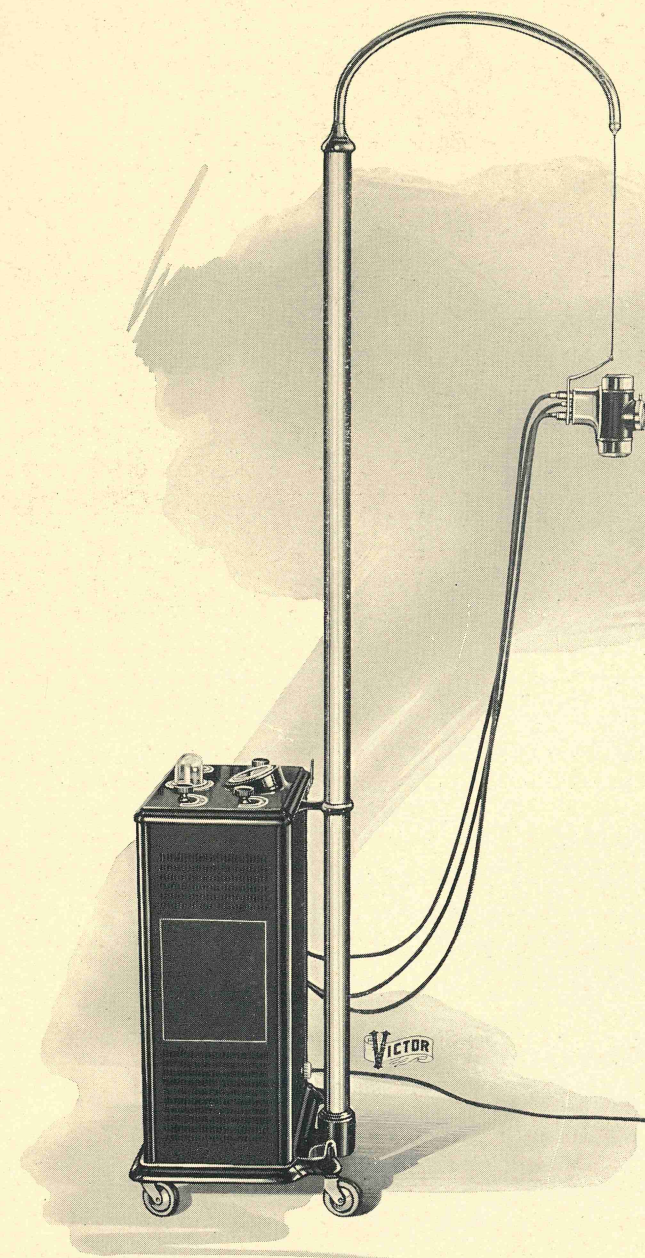
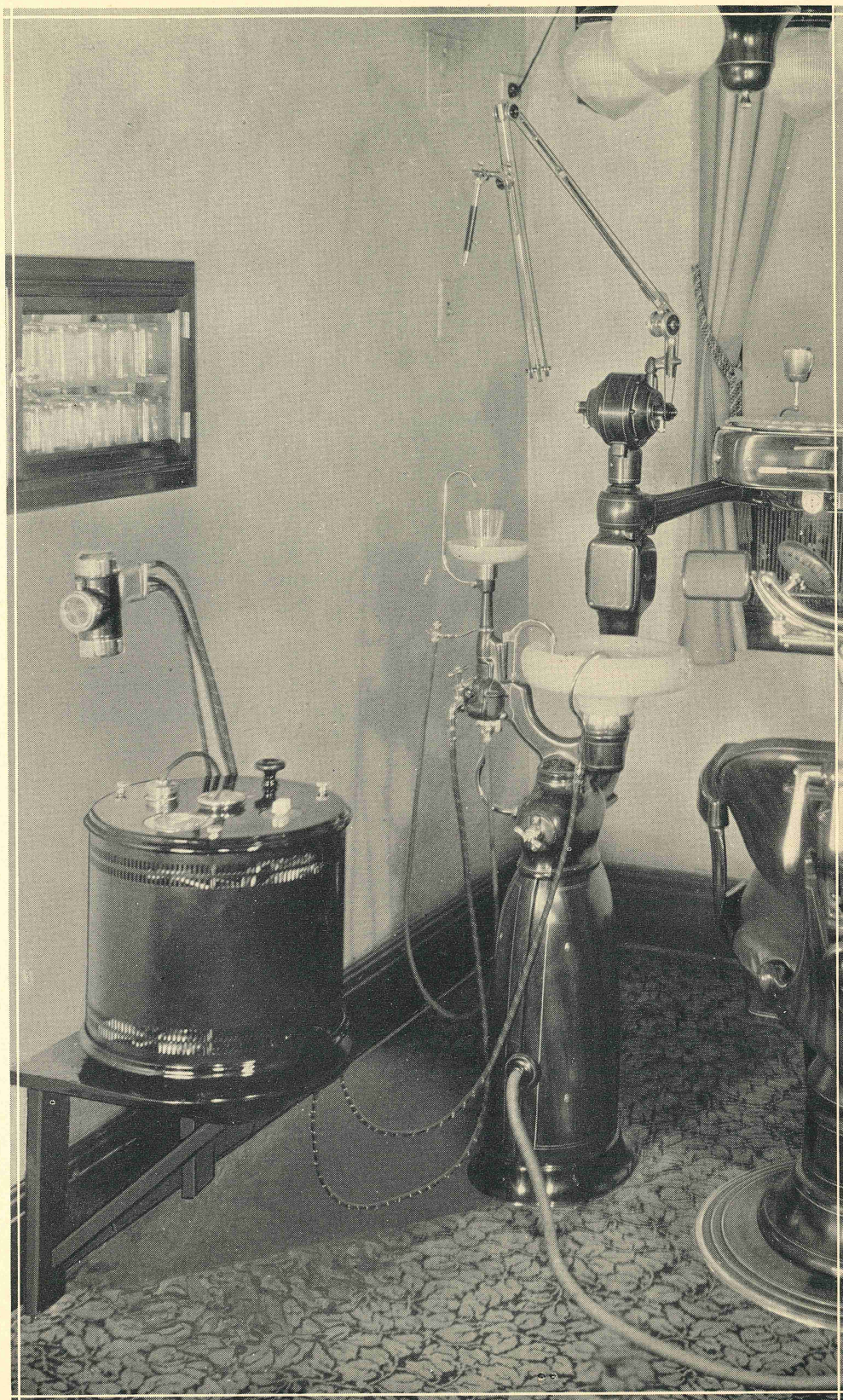


Fig. 21. Victor Counterweight-Suspended Type Water-Cooled Quartz Lamp.

A mobile outfit for operation on direct or alternating current, independent of plumbing connections. This model is also furnished with faucet type cooling system for operation on alternating current.

VICTOR



Model "B" Water-Cooled Quartz Lamps

Many practitioners, especially in the dental and eye, ear, nose and throat fields, have long felt the need of a water-cooled quartz lamp in their practice, but have forgone its purchase either because of space limitations or because of the initial investment required. As a solution of these problems, Victor offers the Model "B" Water-Cooled Quartz Lamp, a faucet-cooled unit patterned along the lines of the Model "B" air-cooled lamp.

Same Therapeutic Efficiency as Model "A" Water-Cooled Lamp

While much more simple in design than the Victor *de luxe* Model "A" water-cooled outfits, it should be distinctly understood that this new lamp uses the same "Uviarc" and water-cooled casing (Fig. 16) as the *de luxe* lamp and has exactly the same therapeutic efficiency, permitting the use of identical technic.

A comparison of the Model "B" air- and water-cooled lamps (Figs. 13 and 24) shows a great similarity in the control system employed in each. In the water-cooled lamp a nickel cap fits over the socket in the center of the control panel and the mobile base of the air-cooled unit is replaced by a wall bracket (not visible in this perspective). The controls in either case consist of a voltmeter, rheostat and line switch. Within the cabinet of the alternating

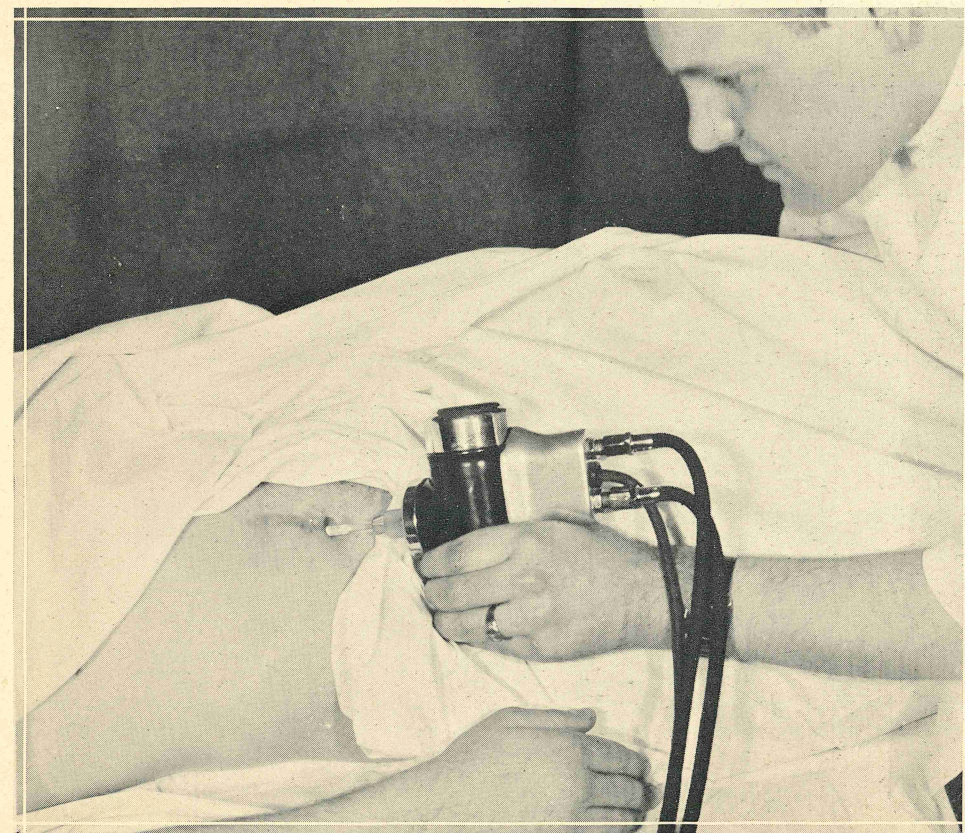


Fig. 22.

Treatment of a surgical sinus with a Victor Water-Cooled Lamp.

current models are mounted a transformer, resistance and choke coils, and a two-bulb *Tungar* rectifier. The direct current outfits require only a resistance unit.

Uses Faucet-Type Water Cooling System

Since low cost is essential in the manufacture of this lamp, the idea of incorporating a self-contained cooling system was reluctantly discarded—reluctantly, because in some instances it is not feasible to restrict the use of the lamp to a room where an external water supply is available, which is the case with the faucet type cooling system employed in this outfit. Where mobility is desired, a Model “A” self-contained lamp is recommended.

Water-Cooled Casing Design Ideal for Purpose

In adopting the faucet cooling system Victor engineers were very fortunate in having previously designed a water-jacket casing for the “Uviarc” burner which presented no problems insofar as this method of cooling is concerned (see description on pages 26 and 27).

Since no water flows across the single quartz window of this lamp, it eliminates the old bugbear of mineral deposits from the tap water which in previous designs formed thereon and decreased the ultraviolet output to a considerable extent.

Convenient Hinged Wall Receptor

The water-cooled lamp is frequently used for general irradiation technic with the patient seated or standing at a distance of twenty inches from the burner (see page 27). The hinged lamp receptacle (Fig. 23) furnished with the Model “B” lamp is specially designed for this purpose. When attached to the wall at the desired height it will hold the lamp in position for general irradiation and, when lamp is not in use, it may be swung close to the wall, out of the way.

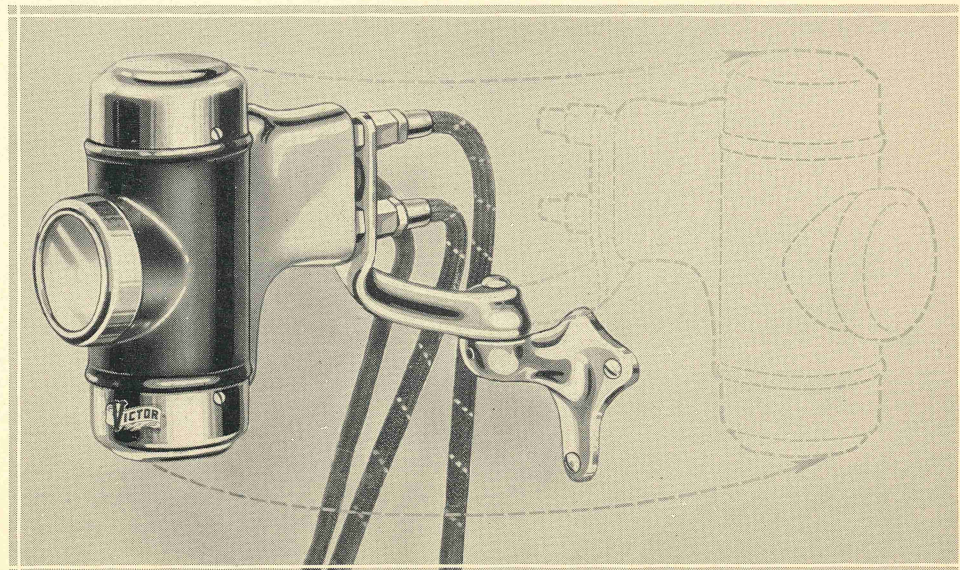


Fig. 23. Hinged receptacle for Victor Water-Cooled Lamp. Dotted lines show how lamp may be swung close to the wall when not in use.

VICTOR

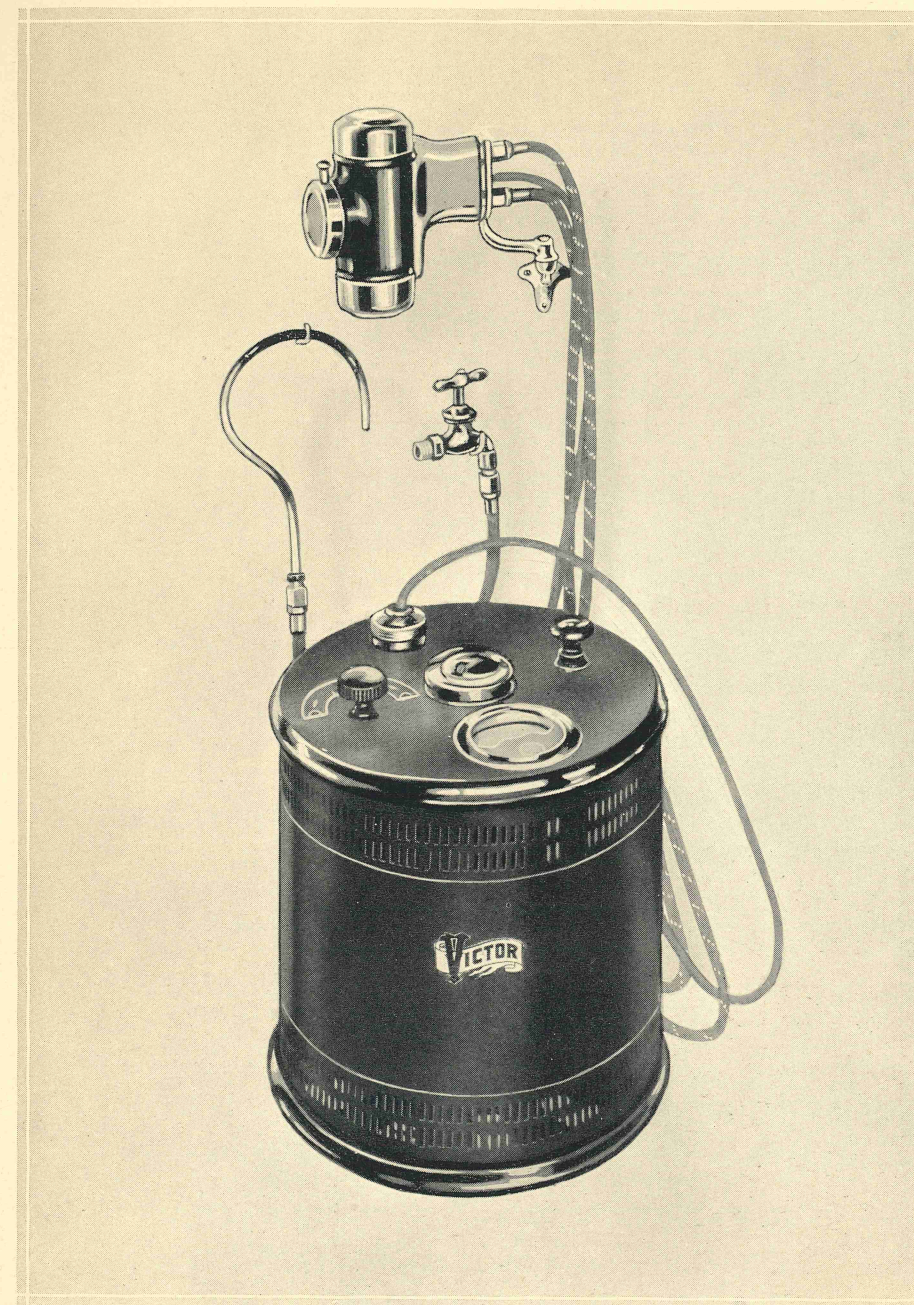


Fig. 24. Victor Model “B” Water-Cooled Quartz Lamp. As supplied for operation on either direct or alternating current. The lamp is furnished complete with wall bracket, receptor and plumbing connections for faucet cooling.

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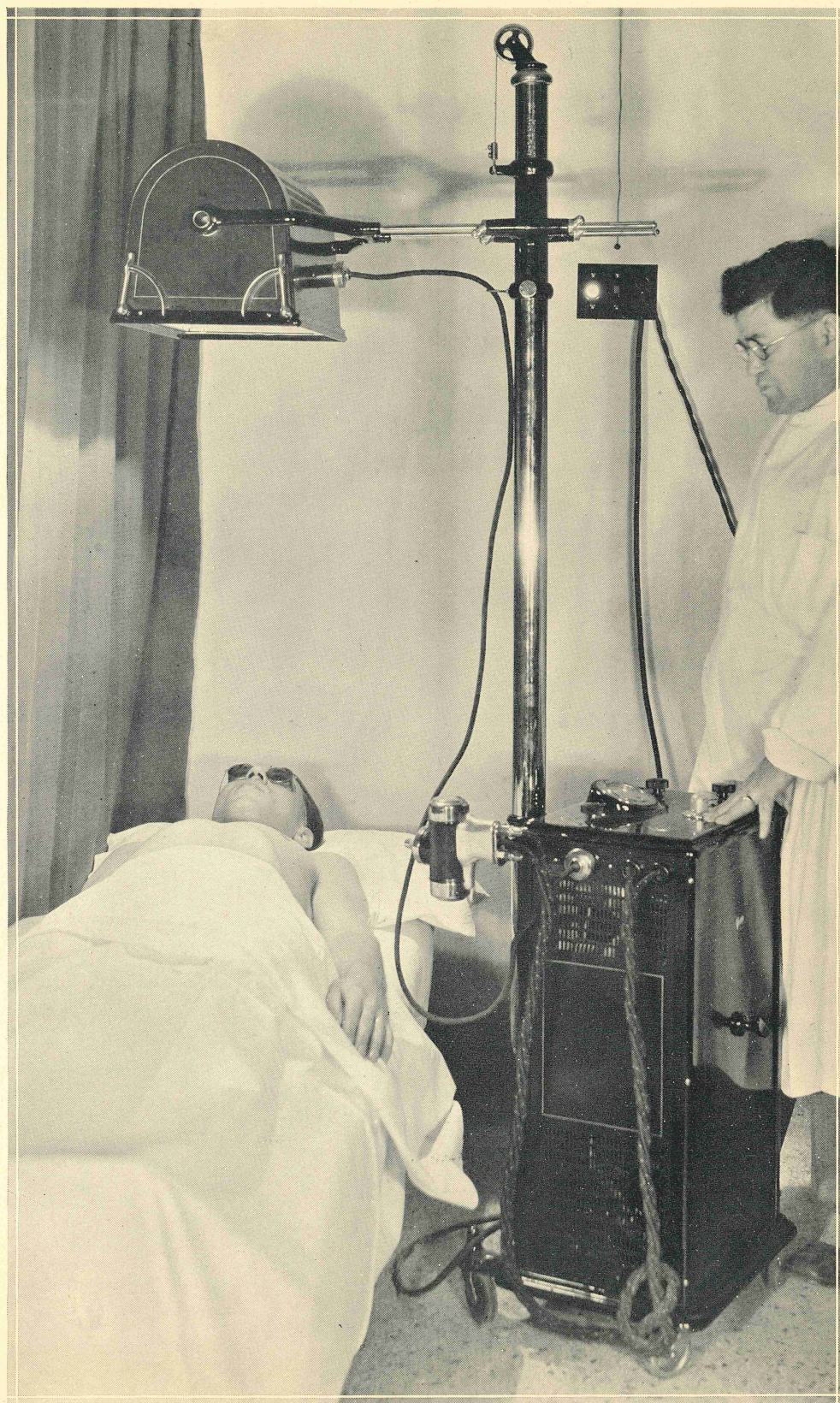


PHOTO COURTESY COLUMBUS HOSPITAL, CHICAGO

Combination Air- and Water-Cooled Outfits

While the purchaser of an air-cooled lamp may utilize his apparatus for localized treatment by means of the adapter plate shown in Fig. 10, page 14, and the owner of a water-cooled lamp may use it for general irradiation, as explained on page 27, hospitals and a great many practices require both the air-cooled and water-cooled types. Depending on the nature and extent of the work, and the number of patients to be treated in a given time, the equipment selected will be either the separate and independent unit or the combination of air- and water-cooled units described on the pages following.

In view of this, Victor ultraviolet apparatus is designed to permit the combining of both air- and water-cooled lamps in one compact and practical unit. This standardized unit plan of construction also allows the purchaser of either an air- or water-cooled lamp to later increase the range of his equipment by adding to it the parts necessary to convert it into a combination outfit (except with the Model "C" and the water-cooled counterweighted suspension model). Obviously, this represents an appreciable saving in both money and space, since the same control system is used to operate both "Uviarcs."

Practically any desirable combination of air-cooled and water-cooled lamps can be made, for operation on either direct or alternating current and with self-contained or faucet-type cooling systems, to meet individual requirements, and we are ready to assist in these selections when given the particulars regarding the desired range of service and size of space available. This is a phase of Victor Service which will be found very helpful.

Model "A" Combination Quartz Lamps

The Model "A" Combination Quartz Lamp with self-contained cooling system embodies in one compact unit all of the advantages of the Model "A" air-cooled and water-cooled outfits described in the preceding pages. It is, without a doubt, the finest and most comprehensive ultraviolet apparatus available to the profession today, providing as it does facilities for the complete range of ultraviolet therapy, a control system of wide latitude and extreme simplicity, complete mobility independent of plumbing connections, and a conservative beauty of design and finish which harmonizes with companion equipment and furnishings in office or clinic. These features are also found in the faucet-cooled Model "A" Combination outfits, except that use of the water-cooled lamp is restricted to locations having plumbing connections.

Details of Construction

This unit is essentially a Model "A" water-cooled lamp to which has been added the tubular column, counterweighted reflecting hood and "Uviarc" of the Model "A" air-cooled lamp. The control panel and interior of the control stand are arranged as in the water-cooled outfit (see Fig. 18, page 30), i. e., with water-circulating and cooling system and water flow indicator (in self-contained units), 4 bulb *Tungar* rectifier, transformer and choke coil (A. C. models), rheostat and control, selector and line switches and voltmeter. The receptor for the water-cooled lamp is conveniently situated on one corner of the control stand.

Advantages of Model "A" Combination Lamp

The complete mobility of this lamp, using a self-contained cooling system, plus the 4-bulb rectifier permitting "high voltage" or "intensive" technic with the air-cooled "Uviarc", represent the principal differences between the "A" and "B" combinations. These features are found indispensable, however, in the busy office or clinic, as the valuable time saved by them more than justifies the additional initial investment.

The widespread popularity of this model, amongst physicians and hospitals alike, offers eloquent proof of its adaptability to various classes of service, its convenience of application and control and its efficiency as a generator of ultraviolet radiation for both localized and systemic treatment.

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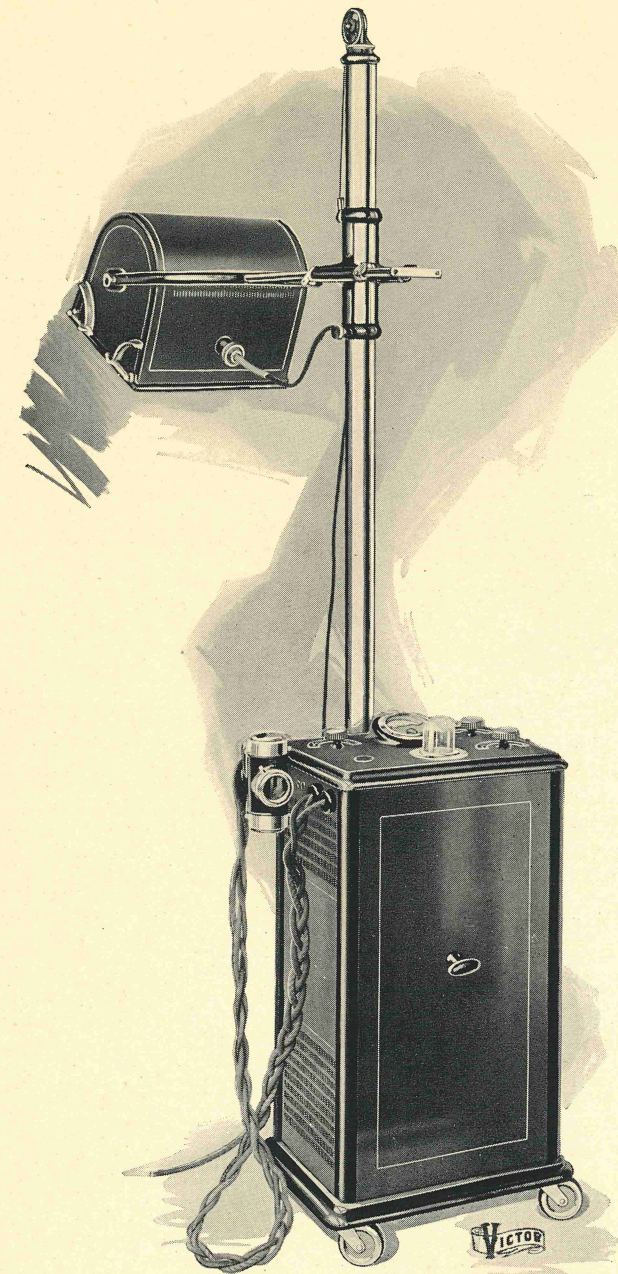


Fig. 25. Victor Model "A" Combination Air-Cooled and Water-Cooled Quartz Lamp Outfit

As it appears for either alternating or direct current, with self-contained water-cooling system. A mobile outfit, requiring only an electric light socket to operate in any part of the building; no connection to plumbing system necessary.

VICTOR

Model "B" Combination Quartz Lamps

The Model "B" Combination Quartz Lamp is a moderately priced unit providing facilities for both air- and water-cooled ultraviolet therapy with the minimum investment in apparatus. While, in comparison with the "A" combination, it is subject to the same limitations as the Model "B" air-cooled and water-cooled lamps, it is nevertheless a very practical and efficient outfit, fully the equal therapeutically of any other Victor lamp operating at equal voltage values across the "Uviarc."

The "B" Combination employs "Uviarc" burners; its air-cooled reflecting hood is a true paraboloid; its water-cooled casing is the same as used in the Model "A" lamp; in A. C. models, its 2-bulb full wave *Tungar* rectifier system supplies a smooth constant current to the "Uviarcs"—altogether, it is a typical Victor product in design, workmanship and finish.

Control Features and Range

When using the outfit for general irradiation, the water-cooled lamp is disconnected from the control panel and the air-cooled lamp may then be moved about freely on its easy rolling wheels to any location desired. Localized treatments with the water-cooled lamp are restricted, however, to the vicinity of plumbing connections, since only the faucet-type cooling system is used in this model.

The control panel accommodates a line switch, rheostat, voltmeter and plug receptacle for connecting either the air- or water-cooled lamp. In alternating current outfits, a 2-bulb *Tungar* rectifier system and rheostat are mounted in the control cabinet; for operation on direct current, the rheostat only is required.

Selection between the Model "A" and "B" Combination units is largely a matter of flexibility of operation desired and the investment involved. The Model "A" is unquestionably the choice of the physician or institution insisting on and willing to pay for the advantages offered in this unit—and found in no other, regardless of price. On the other hand, when the initial cost is necessarily an important consideration and the minor limitations of the Model "B" lamp are considered of no great consequence, this model will be found an excellent piece of therapeutic apparatus, worthy in all respects of its Victor nameplate.

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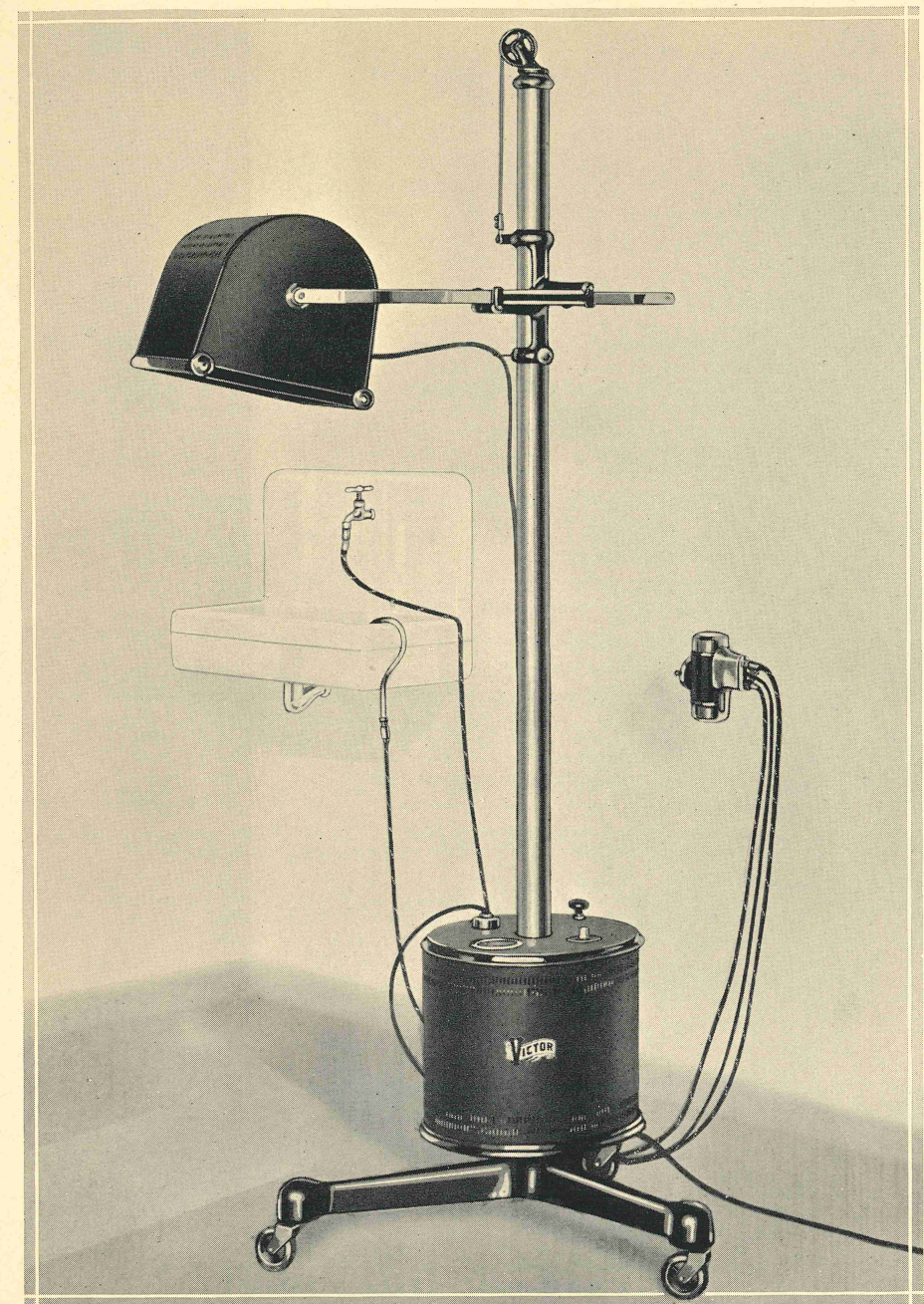


Fig. 26. Victor Model "B" Combination Air- and Water-Cooled Quartz Lamp.

As supplied for operation on either direct or alternating current. The lamp is furnished complete with hinged wall receptor and plumbing connections for faucet cooling.

VICTOR

Selecting Your Victor Quartz Lamps

IN CHOOSING one or more of the forty types of Victor Quartz lamps listed on the following pages, it is suggested that a Victor representative be consulted regarding the model best suited for any given class of service. Whether your practice is large or small, specialized or general, there is a Victor lamp which will exactly fit your needs, and your local Victor representative's factory training and wide experience in this field will be found invaluable in assisting you in its selection.

VICTOR

Specifications for Alternating Current Outfits

The Outfits listed below are inclusive of "Uviarc" Quartz Tubes and "Tungar" Rectifier Bulbs. Only Model "A" units are obtainable for operation on 25-49 cycle alternating current, and order should so specify, as special wiring is required for these frequencies.

For 110 Volts 50-60 Cycle		Air-Cooled	For 220 Volts 50-60 Cycle	
Code	Cat. No.		Cat. No.	Code
Yazer	V2719	Model "A" Mobile Unit, with tubular column for reflecting hood mounted on rectifier control cabinet. Approximate shipping weight, 215 lbs.	V2720	Yazre
Yazwy	V2723	Model "A" Wall Bracket Unit, reflecting hood suspended from wall bracket; mobile rectifier control cabinet. Approximate shipping weight, 115 lbs.	V2724	Yeacy
Yerty	V2853	Model "B" Mobile Unit, with tubular column for reflecting hood and rectifier control cabinet mounted on tripod base. Approximate shipping weight, 220 lbs.	V2854	Yerus
Yifag	V2946	Model "B" Ceiling Suspension Unit, reflecting hood suspended from ceiling; rectifier control cabinet mounted on wall bracket. Includes wall bracket for control cabinet; does not include suspension pipe or ceiling socket. Approximate shipping weight, 160 lbs.	V2947	Yifga
Yeymp	V2888	Model "C" Portable Unit, with telescopic column for reflecting hood and rectifier control cabinet mounted on disappearing tripod. Approximate shipping weight, 135 lbs.	V2889	Yeyoy
Water-Cooled—Self-Contained				
Yecay	V2738	Model "A" Mobile Unit, with receptor for lamp mounted on rectifier control cabinet. Approximate shipping weight, 220 lbs.	V2749	Yedgy
Yeter	V2864	Model "A" Mobile Unit, with receptor for lamp counter-weight-suspended from curved overhead arm on rectifier control stand. Approximate shipping weight, 275 lbs.	V2865	Yetre
Water-Cooled—Faucet Type				
Yebob	V2734	Model "A" Mobile Unit, with receptor for lamp mounted on rectifier control cabinet; includes necessary attachments for plumbing connections. Approximate shipping weight, 180 lbs.	V2741	Yecib
Yesso	V2860	Model "A" Mobile Unit, with receptor for lamp counter-weight-suspended from curved overhead arm; includes necessary attachments for plumbing connections. Approximate shipping weight, 235 lbs.	V2861	Yesut
Yidly	V2924	Model "B" Wall Unit, with hinged receptor for lamp mounted on wall; includes wall bracket for control cabinet and necessary attachments for plumbing connections. Approximate shipping weight, 140 lbs.	V2925	Yidoj
Combination Outfits				
Yeduf	V2752	Model "A" Mobile Unit, with self-contained water-cooling system, combining air-cooled lamp with V2738 or V2749 water-cooled lamp. Air-cooled reflector hood and receptor for water-cooled lamp mounted on rectifier control cabinet. Approximate shipping weight, 295 lbs.	V2753	Yedyg
Yebwa	V2736	Model "A" Mobile Unit with faucet water-cooling system, combining air-cooled lamp with V2734 or V2741 water-cooled lamp. Air-cooled reflector hood and receptor for water-cooled lamp mounted on rectifier control cabinet. Includes necessary attachments for plumbing connections. Approximate shipping weight, 255 lbs.	V2743	Yecud
Yievvy	V2944	Model "B" Mobile Unit with faucet water-cooling system, combining water-cooled lamp with V2853 or V2854 air-cooled lamp. Air-cooled reflector hood and rectifier control mounted on tripod base; water-cooled lamp on hinged wall receptor. Includes necessary attachments for plumbing connections. Approximate shipping weight, 250 lbs.	V2945	Yiewz

VICTOR

Specifications for Direct Current Outfits

The Outfits listed below are inclusive of "Uviarc" Quartz Tubes

For 110 Volts		Air-Cooled	For 220 Volts	
Code	Cat. No.		Cat. No.	Code
Yerro	V2852	Model "B" Mobile Unit, with control cabinet and tubular column for reflecting hood mounted on tripod base. Approximate shipping weight, 190 lbs.	V2928	Yiebd
Yifhe	V2948	Model "B" Ceiling Suspension Unit, reflecting hood suspended from ceiling; control cabinet mounted on wall bracket. Includes wall bracket for control cabinet; does not include suspension pipe or ceiling socket. Approximate shipping weight, 130 lbs.	V2949	Yifij

Water-Cooled—Self-Contained

Yebye	V2737	Model "A" Mobile Unit, with receptor for lamp mounted on control cabinet. Approximate shipping weight, 190 lbs.	V2748	Yedeb
Yesvy	V2862	Model "A" Mobile Unit, with receptor for lamp counter-weight-suspended from curved overhead arm on control stand. Approximate shipping weight, 245 lbs.	V2863	Yesyv

Water-Cooled—Faucet Type

Yiduk	V2926	Model "B" Wall Unit, with hinged receptor for lamp mounted on wall; includes wall bracket for control cabinet and necessary attachments for plumbing connections. Approximate shipping weight, 110 lbs.	V2927	Yidyl
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Combination Outfits

Yedic	V2750	Model "A" Mobile Unit with self-contained water-cooling system, combining air-cooled lamp with V2737 or V2748 water-cooled lamp. Air-cooled reflector hood and receptor for water-cooled lamp mounted on control cabinet. Approximate shipping weight, 265 lbs.	V2751	Yedod
Yiemp	V2942	Model "B" Mobile Unit with faucet water-cooling system, combining water-cooled lamp with V2852 or V2928 air-cooled lamp. Air-cooled reflector hood and control cabinet mounted on tripod base; water-cooled lamp on hinged wall receptor. Includes necessary attachments for plumbing connections. Approximate shipping weight, 220 lbs.	V2943	Yiert

Reserves

Code	Cat. No.	
Wyorv	J6040	Air-Cooled "Uviarc" Mercury Vapor Quartz Tube.
Wyovz	J6041	Water-Cooled "Uviarc" Mercury Vapor Quartz Tube.
Wyowb	J6042	"Tungar" Bulb for Victor Quartz Lamp Rectifiers.

Extras

Code	Cat. No.	
Wyops	J6039	Adapter Plate for Air-Cooled Reflector Hood; used to connect Localizing Applicators to Air-Cooled Lamps.
Yecco	V2739	Counterbalance Weight to compensate for Adapter Plate. (Required only on Model "A" Wall Bracket Lamps.)

A complete line of applicators and accessories for ultraviolet therapy is illustrated and described in Victor Bulletin No. 265, "The Red Book of Physical Therapy Appliances". Copy on request.

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